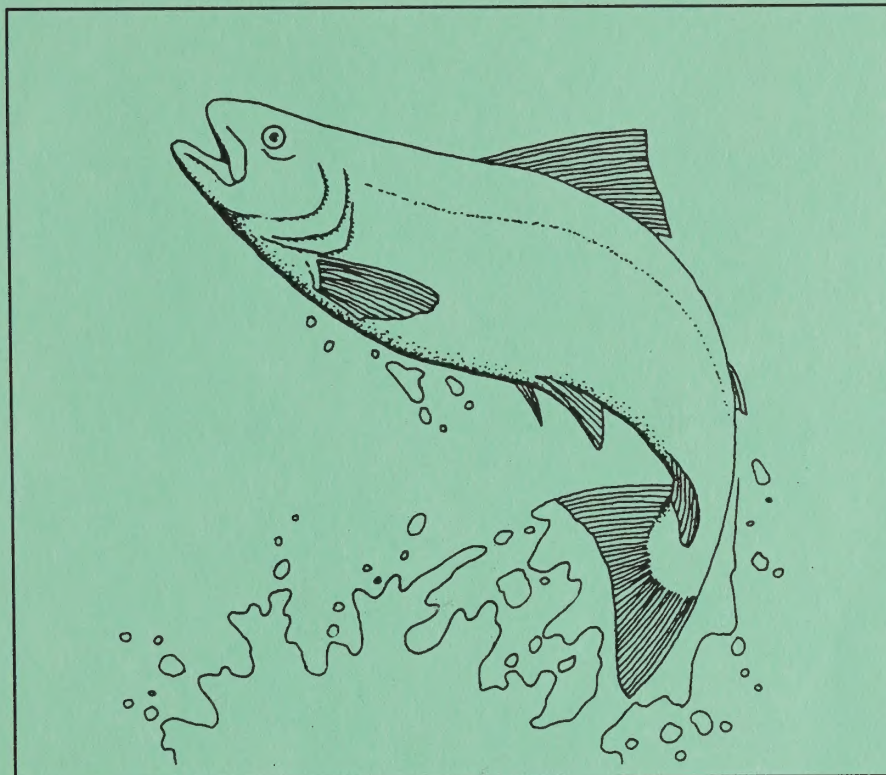


F I N A L E. I. R.



**Wastewater Treatment Plant
Upgrade & Sewer Line Replacement**

March 1990

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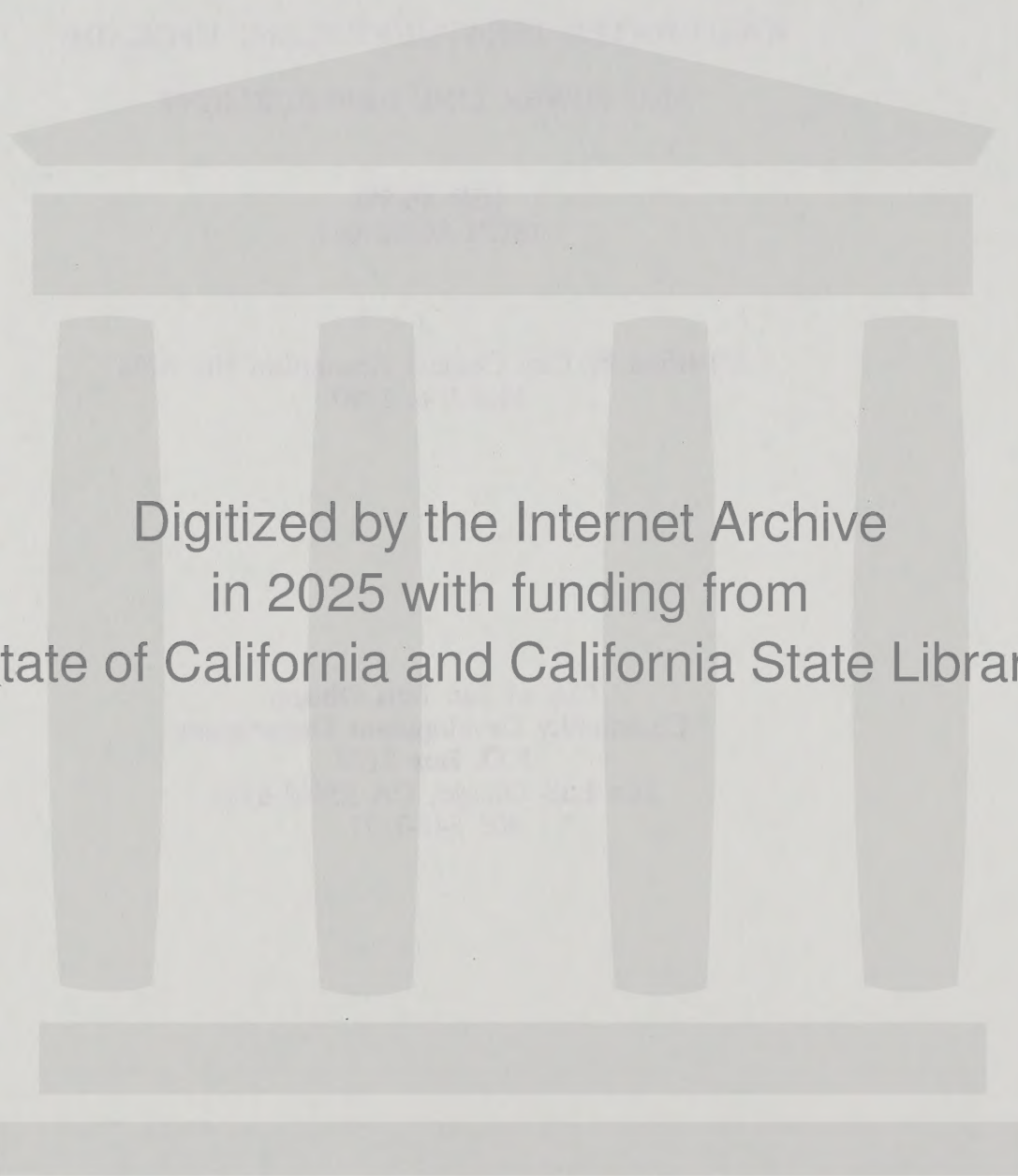
city of san luis obispo

FINAL
ENVIRONMENTAL IMPACT REPORT
WASTEWATER TREATMENT PLANT UPGRADE
AND SEWER LINE REPLACEMENT

(ER 46-89)
(SCH 89092704)

Certified by City Council Resolution No. 6774
March 6, 1990

City of San Luis Obispo
Community Development Department
P.O. Box 8100
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INTRODUCTION

California law requires the city to prepare an environmental impact report (EIR) when it considers taking an action that may significantly affect the environment. An EIR is to help the public and decision-makers understand the consequences of the action, to consider alternatives, and to incorporate features which will reduce harmful effects. City actions subject to this environmental review requirement include adopting plans and approving various public and private projects.

An EIR is to be an accurate, full-disclosure document. This is the final EIR for the upgrade of the city's wastewater (sewage) treatment plant and replacement of certain sewer pipes. This version incorporates previous drafts as modified by public comments, responses, and the actions of the City Council in certifying the report as adequate.

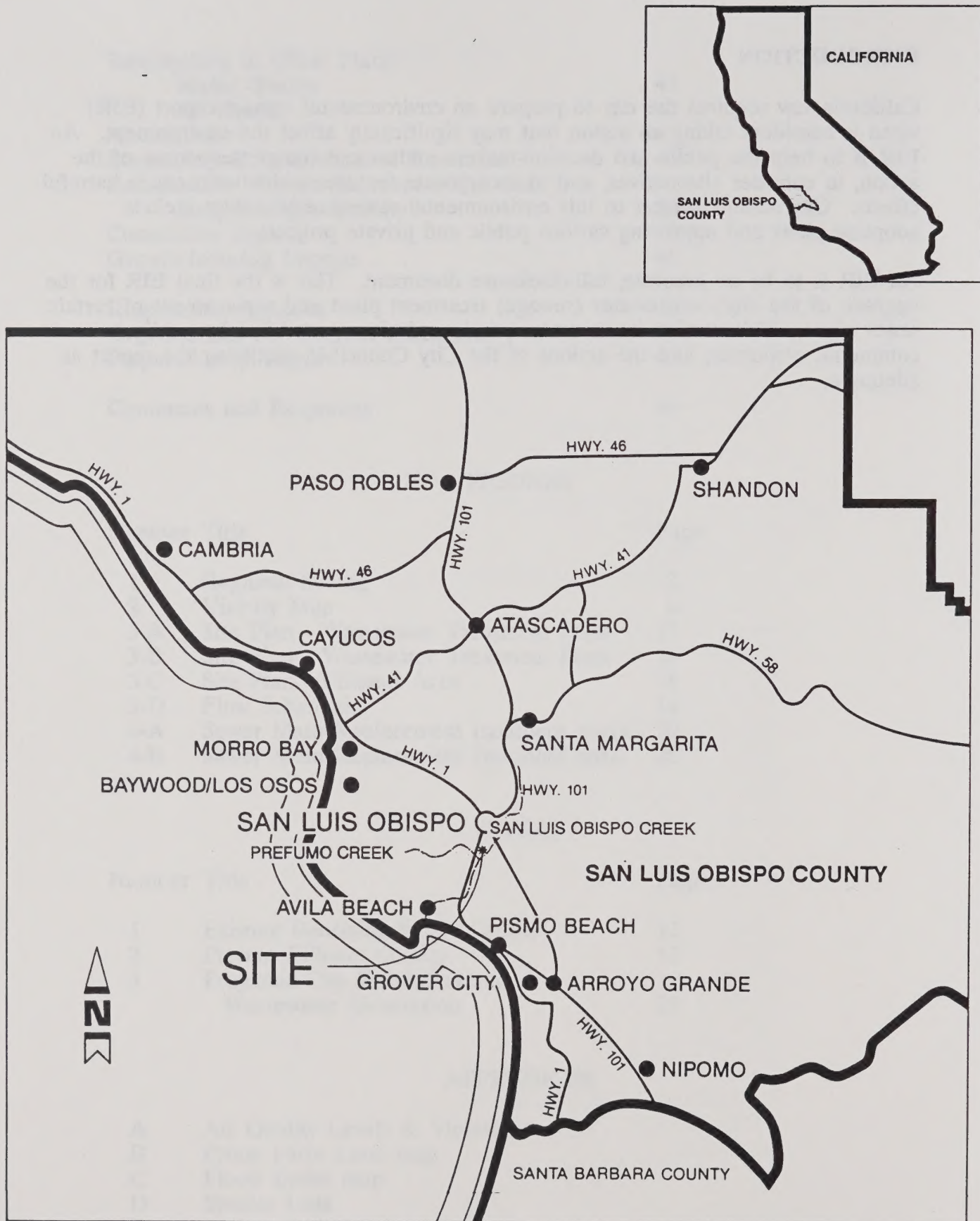


FIGURE 1 - REGIONAL SETTING

SUMMARY

Setting

The City of San Luis Obispo collects, treats, and disposes of wastewater (sewage) from businesses, agencies, and about 41,000 residents within the city, and from Cal Poly and the county airport. The city's wastewater treatment plant violates state and federal water quality standards. Several existing sewer mains and the laterals leading to individual buildings contribute to these problems, by allowing inflows from rain-saturated ground during the winter. Also, the treatment plant does not have sufficient capacity for projected city growth.

Project

The city has adopted wastewater treatment policies, and intends to carry out phased changes to the treatment plant, along with replacing some main sewer pipes to reduce storm inflows. This report discusses what have been called "unit 3" and "unit 4" of the treatment upgrading program. Units 1 and 2, completed in 1983, included an inflow equalization basin, changes to the equipment where untreated wastewater enters the plant, a cogeneration facility, and chlorination and dechlorination equipment. Unit 3 changes are intended to meet wastewater discharge requirements concerning nutrients and substances toxic to fish. Unit 4 changes are intended to meet receiving water requirements concerning temperature, color, foaming, and fine silt. Also proposed are treatment plant changes and pipe replacements outside the treatment plant to better handle peak winter storm-related flows.

None of the proposed changes are intended to substantially increase the average capacity of the plant, which the city plans to do in the next decade. That expansion will be the subject of separate environmental review. However, the changes covered by this report would incidentally result in a roughly five percent increase in hydraulic capacity.

The basic approach of biological and chemical treatment would remain the same. The proposed project would not change the method of disposal for the effluent (treated wastewater): discharge from a pipe into San Luis Obispo Creek just upstream from Prefumo Creek near Los Osos Valley Road. However, the improved level of treatment would facilitate possible shifts to other disposal methods which have been contemplated, including landscape and agricultural irrigation. The proposed treatment plant changes would all occur within the existing treatment plant site. The sludge (solids separated from the wastewater) would continue to be used as fertilizer or hauled to a landfill for disposal.

The project would modify and add equipment at the existing plant. Principal features would be:

- More effective primary screening;
- Changes to the piping leading to the holding pond to allow partially treated, rather than untreated, wastewater to be held during peak winter flows;
- Pumps and blowers to mix wastewater with sludge and air, to help convert

- ammonia to nitrate ("activated sludge/nitrification" process);
- Cooling towers to reduce the temperature of the effluent before it enters the creek;
- Two final clarifiers;
- Dual-media filters;
- Dual power line connections and new wiring, to increase the reliability of electrical service.

Also, about three miles of sewer lines would be installed in place of or parallel to existing lines, to better contain stormwater infiltration and avoid overflow of sewage at manholes.

Installing the new features will require substantial amounts of excavation, pouring concrete, replacing soil, and paving.

Impacts

The city has determined that the status of impacts is as follows:

Significant, unavoidable, long-term impact: energy use for activated sludge aeration.

Significant, unavoidable, short-term impact: noise exposure for residents due to project construction.

Potentially significant impacts which will be reduced to acceptable levels through mitigation measures which will be incorporated in the project: changes to wetland habitat; harm to cultural resources; aesthetics.

Potential impacts found not to be significant, due to absence from the area, minor effects, or features incorporated in the project as proposed: topography; land use, population, economics, and housing; geologic stability and soils; climate; air quality; vegetation; fish and wildlife; threatened or endangered species; wild and scenic rivers; groundwater; agricultural land; coastal zone; flood plain; recreation; open space; sensitive areas; transportation and circulation; public services; public safety (toxic hazards).

In order to approve the project, the city was required to find that overriding considerations justified approval despite significant impacts. The overriding concern was improving the effluent to meet water quality standards for San Luis Obispo Creek.

Mitigation

Measures to reduce harmful effects to acceptable levels are the following:

Creation of a pond near San Luis Obispo Creek, within two years of completing the treatment plant upgrade (unit 4), to compensate for reduced quality of pond habitat due to changes in operation of the existing effluent ponds;

Recognition and protection of archaeological resources;

Planting to screen the cooling towers and above-ground filtering tanks;

Limits on times for construction.

To make sure these measures are carried out, city planning staff will review the project's plans and specifications, observe project construction, and work with other agencies which are responsible for natural resources.

PROJECT DESCRIPTION

Figure 1 shows the regional setting, while Figure 2 shows the plant vicinity. Parts A through D of Figure 3 show the plant layout and major proposed changes, and a schematic flow diagram. The location of the sewer main replacement is shown in Figure 4.

Project Objectives

The City of San Luis Obispo wants to upgrade its sewage collection and treatment system to meet federal and state water-quality standards, specifically:

- The Water Quality Control Plan, Central Coast Basin (Regional Water Quality Control Board, 1975), and the update in progress;
- The National Pollutant Discharge Elimination System (Permit Number CA0049224 and Regional Board Order Number 86-63);
- The Regional Board's Cease and Desist Order Number 87-113.

These standards are intended to protect existing and anticipated beneficial uses of San Luis Obispo Creek, which include recreation, agricultural water supply, groundwater recharge, and fish and wildlife habitat. Also, the proposed level of treatment would make possible reuse of the effluent for landscape or agricultural irrigation, and incidental groundwater recharge, though such reuse is not proposed as part of this project.

The sewer line replacement is intended to prevent overflows of the collection system due to wet season inflows and infiltration.

The wastewater plant upgrade is further intended to comply with the recent Consent Decree in the matter of the Regional Board vs. the City of San Luis Obispo, a civil court action.

Means of Meeting Objectives

To meet these objectives, the city proposes to implement the "full compliance" option identified in its Wastewater Management Plan and Supplement (Brown and Caldwell, October 1987 and December 1988).

The design criteria for the project include:

- Average dry weather flow (mgd): 5.1
- Average wet season flow (mgd): 5.5
- Peak wet weather flow (mgd): 22

Nominal plant capacity (mgd):

Preliminary treatment:	32
Primary treatment:	22
Secondary treatment:	15
Advance treatment:	15

Inflow concentrations (mg/l):

Biochemical oxygen demand, five-day:	220
Suspended solids:	175

Loading, at average wet season flow (1000 pounds per day):

Biochemical oxygen demand, five-day:	10
Suspended solids:	8

The proposed project would make the following changes at the existing plant:

- Install more effective primary screening, to remove large, hard material that can block or damage equipment in following stages of the treatment process;
- Install pipes and pumps to allow partial treatment of wastewater, to be held during winter peak flows then treated completely as peak flows subside;
- Install tanks with pumps and blowers to mix wastewater with sludge and air, to help convert to nitrate the ammonia, which is toxic to fish;
- Install cooling towers to reduce the temperature of the effluent before it enters the creek;
- Add clarifiers;
- Install filters using pulverized coal and sand to trap contaminants;
- Make power line connections to two branches of the P.G. & E. distribution system and install new wiring, to increase reliability.

Also, about 3.2 miles of sewer mains in the city would be installed in place of or parallel to existing lines, to reduce stormwater infiltration.

Existing Facilities and Disposal Method

About 150 miles of sewer mains, ranging from six to 30 inches in diameter, collect wastewater flows. The oldest pipes date from the 1890's, when pipe materials and trenches were less able to withstand the effects of corrosion and soil settlement. Despite the city's efforts to repair and replace older and deteriorated sewer pipes, water from rainfall and saturated ground does enter the sewage collection system. This storm-water infiltration significantly increases the amount of wastewater which must be treated during the wet season.

The existing treatment plant uses biological trickling filters, clarifiers, and ponds for a "secondary" level of treatment. This level is midway in the three commonly recognized levels of conventional, municipal sewage treatment. The plant is located on about 23 acres, between Highway 101 and San Luis Obispo Creek south of Prado Road.

Raw wastewater enters the plant through a valve which allows peak flows to be partially diverted to a holding pond. After proceeding through equipment to remove trash and grit, the wastewater is pumped through clarifiers and biofilters. Sludge from the two primary clarifiers goes through three anaerobic digesters, then to sludge drying beds. The dried sludge is currently being stored at the treatment plant. Due to high levels of soluble lead in the sludge, the city has suspended the recent practice of making sludge available to farm and household users and hauling the excess to Cold Canyon Landfill, located about five miles southeast of the city. The previous disposal methods may be resumed once the lead sources have been eliminated and the sludge meets all state and federal criteria. Presence of the lead apparently is due to improper discharges into the city sewer system, and will not be effected by the proposed project. The plant produces about 500 tons, or about 2,000 cubic yards, of sludge per year. (The city expects to dispose of the stored sludge in a one-time transport to an approved disposal site.)

Fluid from the digesters is recirculated through the early treatment stages.

From the last clarifier, wastewater flows into ponds, and partially recirculates through another biofilter. After standing in the ponds, the effluent passes through a chlorine-contact channel, a microscreen to remove algae, and a chamber for dechlorination. The dechlorinated effluent flows over a cascade aerator into San Luis Obispo Creek. The creek flows into the Pacific Ocean at Avila Beach, about six miles to the south.

Existing Plant Capacity

The present plant is rated to handle about 5.1 million gallons per day (mgd) average dry weather flow. It can provide secondary treatment to a peak flow of about 8.5 mgd, and with the existing holding ("equalization") pond can accept 22 mgd for a short duration.

Present Inflows

Plant operators estimate that in spring 1989 the average daily inflow (annual basis) was about 4.6 mgd, with an average dry weather flow of about 4.4 mgd. (In fall 1989, dry soil and water rationing due to the drought have at least temporarily reduced inflows.) Peak flow exceeding 22 mgd was experienced during a 1986 storm. Considering 1985-86 average dry weather flow, about 63 percent comes from housing, about 16 percent from government agencies, schools, and institutions, about 14 percent from stores, industries, and offices, and about seven percent from hotels, motels, and

restaurants. Judging from building permit records, in the last few years the proportions from nonresidential uses have probably increased a few percentage points.

Average 1989 dry weather flow divided by city resident population comes to about 102 gallons per person per day. Future demands have been projected using two methods:

- (1) A per capita rate of about 109 gallons per day, which would yield 5.8 mgd in the year 2015 (Wastewater Management Plan);
- (2) A model relating wastewater generation rates to projected numbers of dwellings and floor area or acreage of various kinds of development, which would yield 6.0 mgd in the year 2015 and 6.2 mgd in the year 2000 (Land Use Element update, draft in progress).

Estimated average annual loadings are about 9,000 pounds-per-day five-day biochemical oxygen demand and 6,700 pounds per day suspended solids.

Present Receiving Water Quality

Creek flow volume and water quality are highly variable with the seasons. During intense winter storms, the channel is scoured by swift flows up to ten feet deep, which appear brown with sediment. During spring and summer, clear water a few inches deep follows the flow line. In late summer or fall, the flow is often imperceptible and matted with algae. In fall 1989, as in many dry years, no water was visible in several areas just upstream from the treatment plant (Prado Road bridge), though water was present farther upstream (Nipomo Street bridge and Mission Plaza).

Compared with other streams through urban areas, San Luis Obispo Creek water is generally of good quality. It provides an amenity and supports both cold and warm water fish. Cold water fish, primarily steelhead trout, have declined significantly since the 1950's, especially in the area downstream from the treatment plant, due to several factors. In addition to the city's effluent pollution, other pollutants, in-stream structures, channel modification, and vegetation removal have degraded water quality. Significant pollution spills unrelated to wastewater treatment (primarily petroleum products from accidentally broken pipelines) have occurred almost annually.

Immediately downstream of the discharge point, the city's treatment plant effluent comprises about 70 percent of surface water flows during typical dry seasons, and virtually the entire observable flow during late summer and fall of drought years. Activities further contributing to water quality problems in the vicinity of the effluent discharge include runoff from streets and parking areas and access by cattle (droppings, bank wallows and wading, and vegetation removal).

Some key indicators of receiving water quality just upstream from the discharge point are shown in Table 1.

Present Effluent Quality

The principal problems have been the amount of nitrogen in the form of ammonia, and water temperature. Total nutrients, foam, color, suspended solids, oil and grease, and coliform bacteria have also exceeded the standards a times. Effluent quality is summarized in Table 2. (Not all constituents have been measured for both effluent and receiving water.)

Table 1
EXISTING RECEIVING WATER QUALITY & STANDARDS

<u>Parameter</u>	<u>Quantity</u>	<u>Units</u>	<u>Sampling frequency</u>	<u>Standard</u>
Turbidity	1.40	NTU	average, weekly, 1988	10 - 20% over background
Dissolved oxygen	8.96	mg/l	average, weekly, 1988	5 - 7 mg/l minimum.
Ammonia	0.36	mg/l	average, monthly, 1988	Not detrimental to aquatic life
pH	8.0	units	average, weekly, 1988	7.0 - 8.3; 0.5 max. change
Temperature	16.3	deg. C.	average, weekly, 1988	5 deg. F. max. increase
Color (true)	17.4	units	average, weekly, 1988	15 units or 10% max. increase
Total phosphorous	0.45	mg/l	average, monthly, 1988	*
Nitrate + nitrite nitrogen	3.05	mg/l	average, monthly, 1988	*
M.B.A.S. (foaming detergent residues)	0.24	mg/l	average, monthly, 1988	0.2 mg/l
Copper (Cu)	5.55	ug/l	average, twice/yr. 1988	45 ug/l max.
PCB's	below detection limit		twice/year, 1988	0.3 ug/l max.

* Concentrations are not to promote aquatic growth that causes nuisance or harms beneficial uses.

Source: City of San Luis Obispo Utilities Department, August 1989.

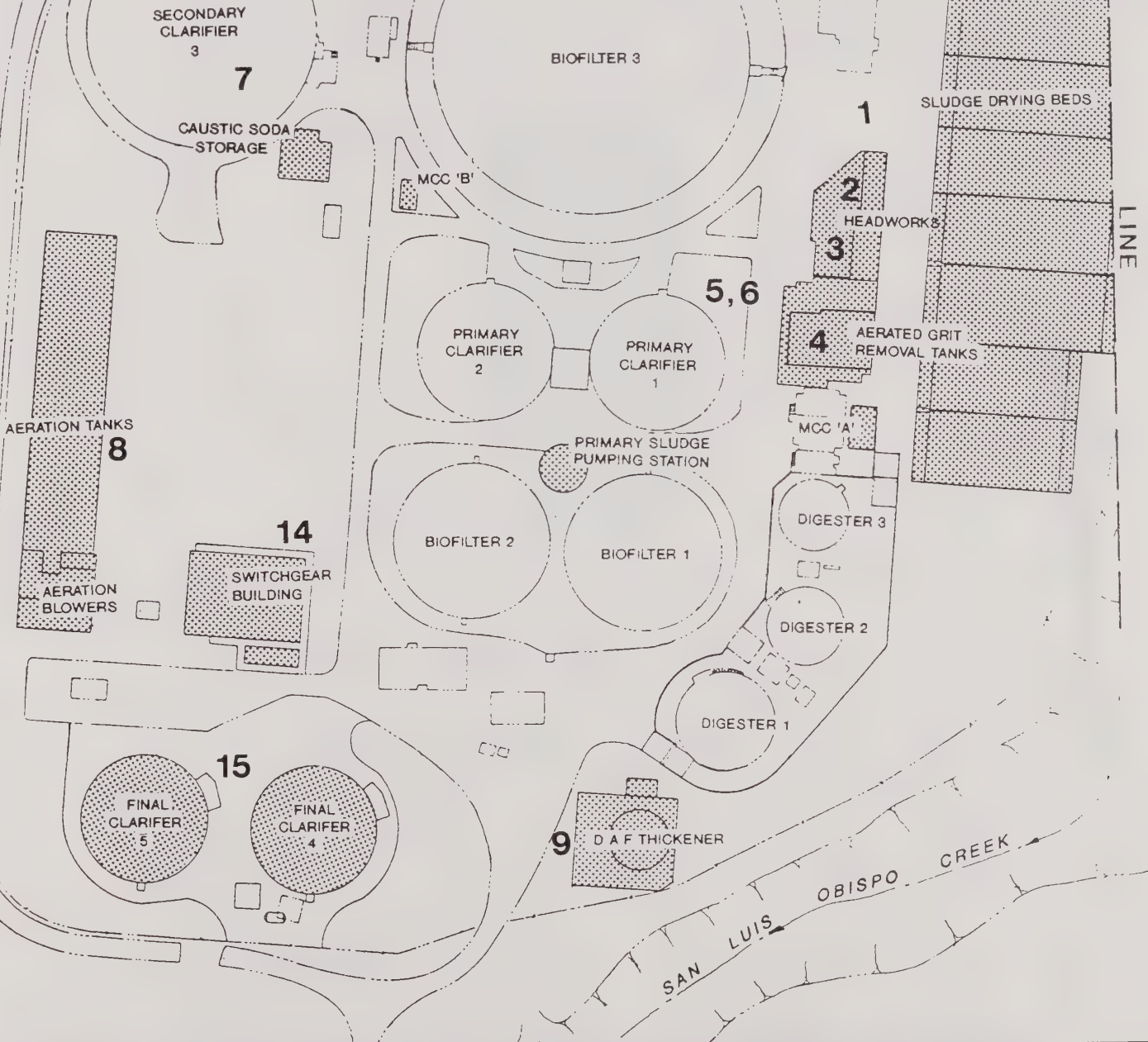
Table 2
PRESENT EFFLUENT QUALITY

<u>Parameter</u>	<u>Quantity</u>	<u>Units</u>	<u>Sampling frequency/base period</u>
Turbidity	6.63	NTU	average, daily, 1988
Dissolved oxygen	8.33	mg/l	average, daily, 1988
Ammonia	14.18	mg/l	average, weekly, 1988
pH	7.4	units	average, daily, 1988
Temperature	20.06	deg. Celsius	average, weekly, 1988
Color	not tested		
Total phosphorous	7.47	mg/l	average, monthly, 1988
Nitrate + nitrite nitrogen	48.42	mg/l	average, monthly, 1988
M.B.A.S. (foaming detergent residues)	not tested		
Sodium	93	mg/l	average, twice/year, 1988
PCB's	not tested		

Source: City of San Luis Obispo Utilities Department, August 1989.

CORPORATION YARD

1" = 100'

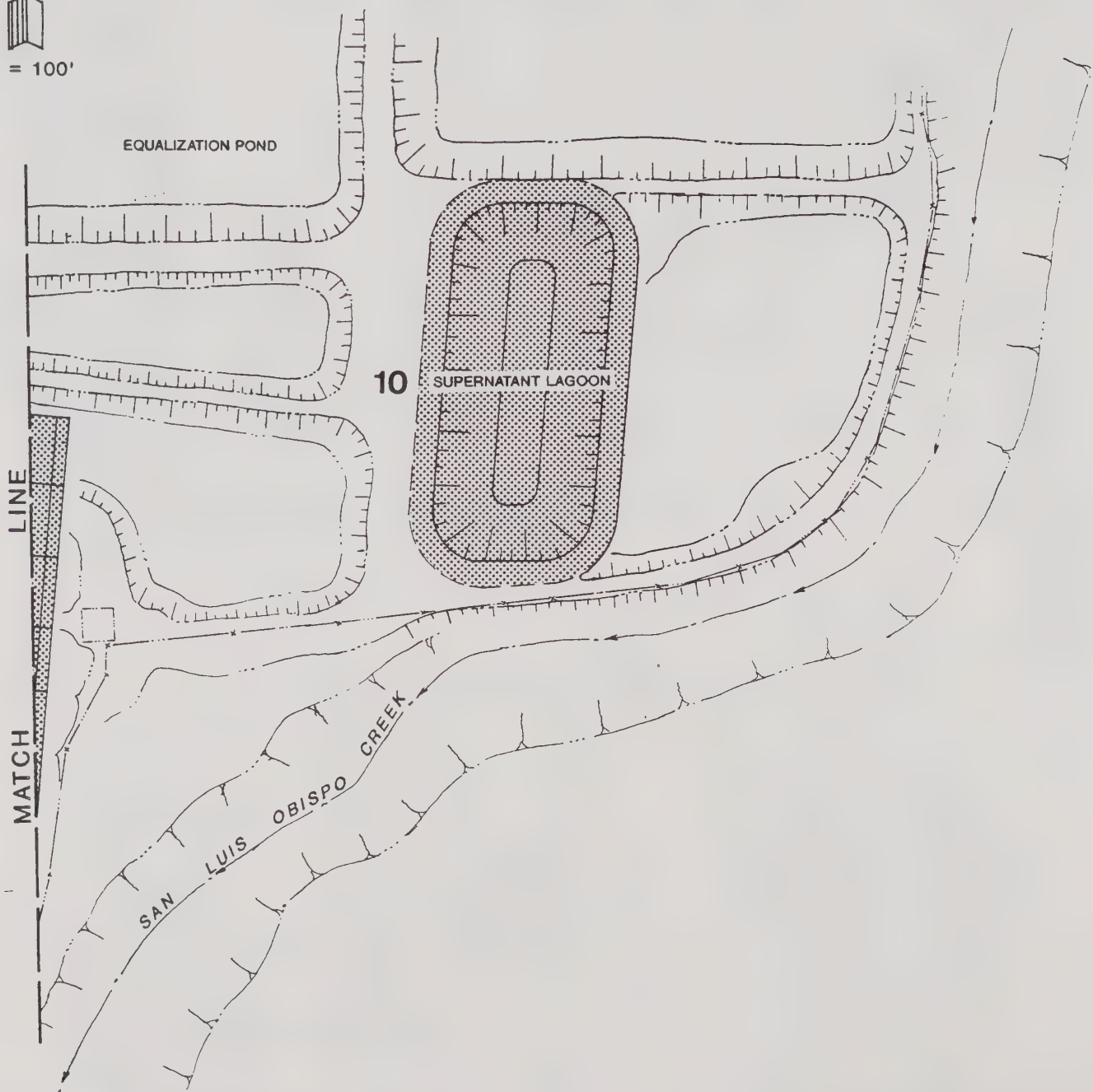


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**FIGURE 3A - SITE PLAN
WASTEWATER TREATMENT PLANT**

EXISTING STRUCTURES NEW STRUCTURES



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**FIGURE 3B - SITE PLAN
WASTEWATER TREATMENT PLANT**



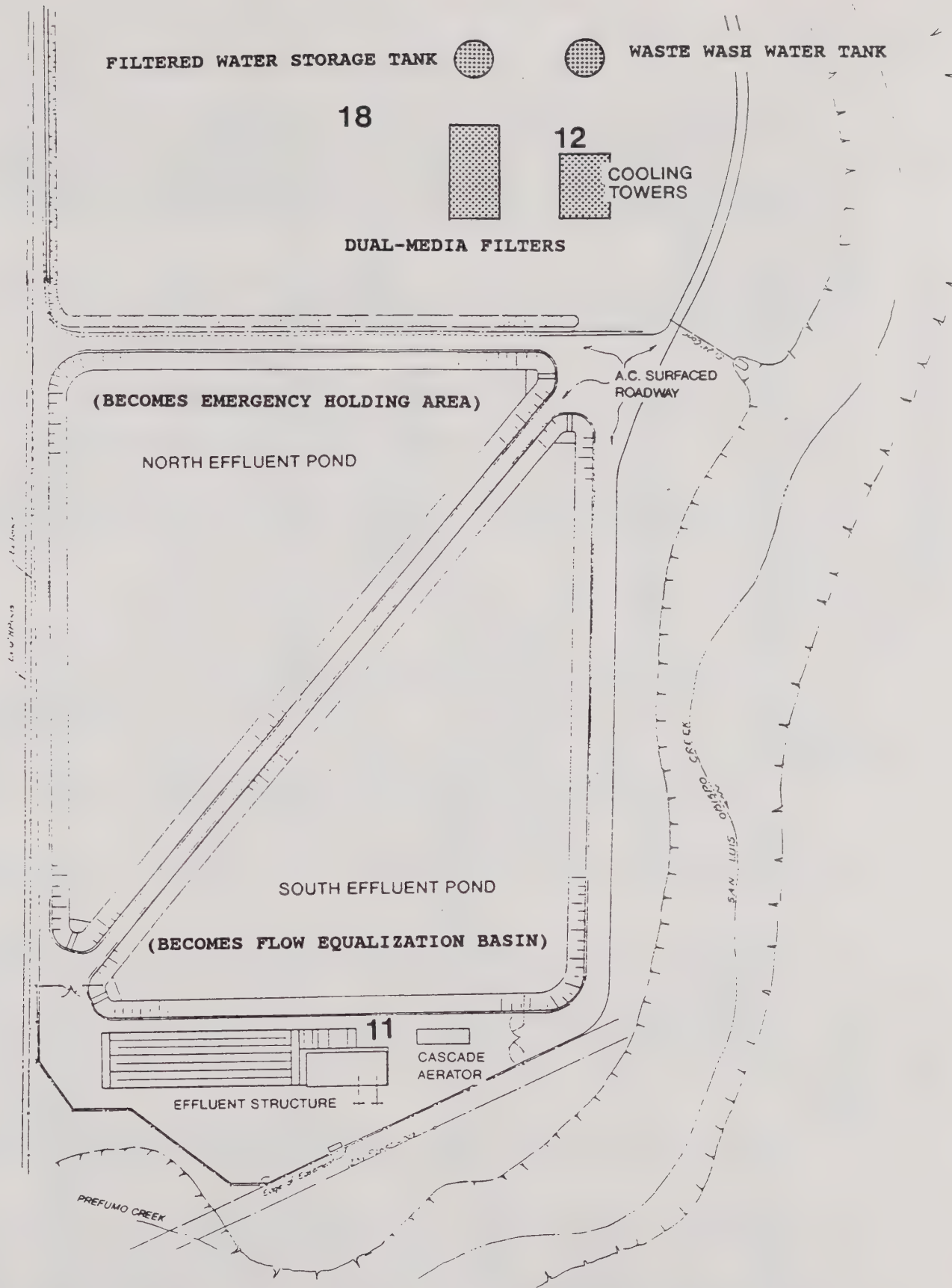
EXISTING
STRUCTURES



NEW
STRUCTURES



U.S. HIGHWAY 101



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**FIGURE 3C - SITE PLAN
EFFLUENT AREA**

 **EXISTING
STRUCTURES**  **NEW
STRUCTURES**

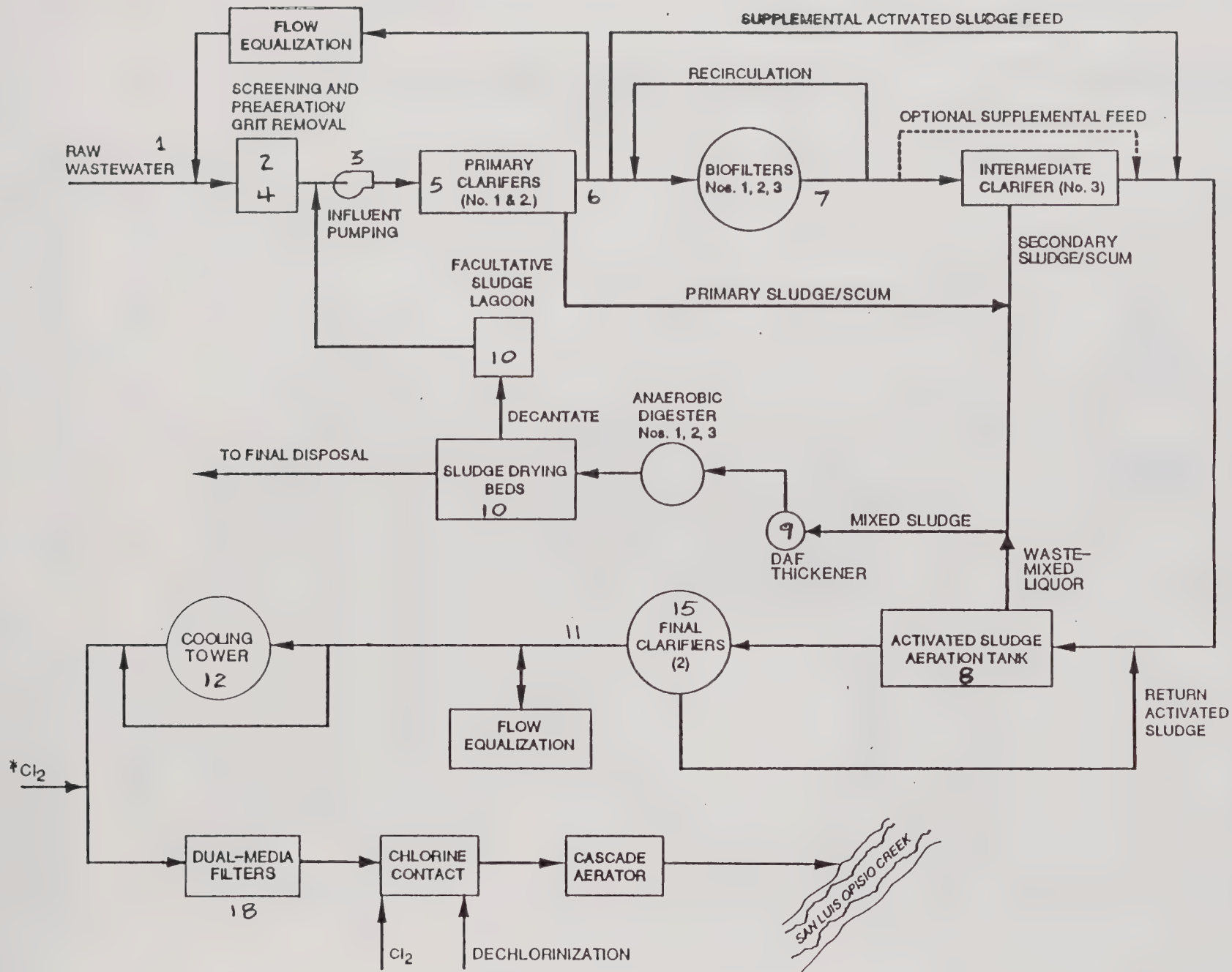


FIGURE 3D - FLOW SCHEMATIC

* Chlorine Requirements and Application Point will be Confirmed After Finalization of the Pilot Plant Study

New Facilities

Following are listed the principal physical changes to the plant equipment and operations. Numbers key to the site plan (parts A, B, and C of Figure 3) and the schematic showing the sequence of processes within the treatment plant (part D of Figure 3).

In parentheses after each item is an indication whether the item falls in "unit 3," to be built between June 1991 and December 1993, or in "unit 4," to be built between January 1992 and December 1993.

1. Replace the 36-inch-diameter influent pipe with a 54-inch pipe. (Unit 3)
2. Install two new mechanically cleaned, climber-type bar screens. (Unit 3)
3. Add two vertical pumps to the influent pumping station, to increase its firm capacity (ability to pump with one pump out of service) from 11 mgd to 32 mgd. (Unit 3)
4. Install two aerated grit-removal tanks, each about 34 feet long, 17 feet wide, and 12 feet deep. (Unit 3)
5. Install a flow distribution box and 24-inch-diameter pipes to equalize flow to the existing clarifiers 1 and 2. (Unit 3)
6. Install pipes, valves, and pumps to allow peak flows (in excess of about 15 mgd) to be routed through facilities providing at least primary treatment before diversion to the existing holding pond. (Unit 3)
7. Divert the biofilter's outflow so it goes to clarifier 3 rather than clarifiers 1 and 2. (Unit 3)
8. Install two open, below-ground, rectangular concrete aeration tanks, each about 17 feet deep, 22 feet wide, and 184 feet long, for nitrification with activated sludge. Blowers will be installed next to these tanks. Each blower will require one electric motor with about 250 horsepower capacity. Also, install caustic soda injection facilities, to control the pH (acidity) of the activated sludge process. (Unit 3)
9. Install a dissolved air flotation thickener ("DAF") about 35 feet in diameter, resembling a small clarifier, with an odor-reduction facility. (Unit 3)
10. Reconstruct a sludge pond to provide a "supernatant" lagoon with a surface area of about 15,000 square-feet, to receive fluids ("decantate") from the sludge drying beds. This lagoon will have a small brush aerator to keep the surface aerobic, while the deeper levels will be anaerobic. Also, renovate and line the existing sludge beds. (Unit 3)

11. Abandon the existing 24-inch-diameter effluent pipeline and install a 36-inch pipeline to the chlorine-contact tank, bypassing the existing effluent ponds. One of the ponds would be retained to equalize flow rates between treatment steps up to and including the final clarifiers and treatment steps including and following the cooling towers; the other pond would be retained to hold effluent in emergencies or when equipment must be shut down for repairs. (Unit 4)
12. Construct cooling towers to reduce the temperature of the effluent before it enters the creek. There would be no more than two towers, each about 24 feet wide and 40 feet long, and not exceeding 12 feet tall. (Unit 4)
13. Provide chlorination before the dual-media filters. (Installation of "ozonation" equipment was determined to be unnecessary during pilot testing, and is not proposed.)
14. Install electrical connections to two separate branches of the P.G. & E. distribution system to reduce risk of plant shut-down during power failures, and install new wiring to accommodate load increases. Replace wiring installed before 1962, to increase reliability and reduce maintenance. (Unit 3)
15. Construct fourth and fifth clarifiers, each an open, circular structure about 80 feet in diameter and 20 feet deep. (Unit 3)
16. Construct other features to improve plant safety and reliability, including spill-containment berms and separate, new pipes for potable water and reclaimed water used within the treatment plant.
17. Plant trees and shrubs along the highway side of the treatment plant itself, to screen buildings and equipment from highway views. (Units 3 and 4)
18. Construct "dual media" filters: horizontal tanks containing granular coal, sand, and gravel, to trap small particles. Tanks for water used to back-wash the filters also will be installed. (Unit 4)

The previously proposed activated carbon filters and carbon regeneration facility were shown to be unnecessary by pilot testing of activated sludge processing and mixed-media filtering, so they are no longer included in project plans.

Preliminary design studies included reference to an in-stream diffuser structure. This structure would consist of a basin with a submerged pipe outlet, to reduce turbulence as effluent flows into the creek. Pilot tests have shown that the proposed treatment equipment adequately removes foaming agents (primarily "M.B.A.S." --methylene blue active substances), so the diffuser structure is no longer proposed.

The trunk line replacement would involve about 3.2 miles of pipe, ranging in diameter from 15 inches to 48 inches, as shown in Figure 4. The route would be trenched, the new pipe would be installed and connected to certain other sewer mains and laterals, and street pavement would be replaced. Work will progress in stages of about one or two blocks at a time, beginning about June 1990 and ending about March 1991. The

existing 21-inch-diameter syphon at the Elks Lane Bridge at San Luis Creek will be retained, but new syphons will be installed at the Nipomo Street crossing of San Luis Obispo Creek and at the Montalban Street crossing of Stenner Creek. (A syphon is a U-shaped pipe which goes under the depth of the creek bed that is expected to be exposed by storm flows.)

Construction Operations

At the treatment plant, construction will be carried out so that acceptable levels of treatment can continue during construction. A detailed schedule of steps has been prepared. In summary, new pipes and pumps will be installed. Temporary pipes will be installed where needed to bypass facilities being modified. Space for the new aeration tanks and other below-ground facilities will be excavated, and most of the soil will be hauled off site. Forms and reinforcing will be placed, and concrete will be poured. The facilities to be replaced will be demolished, and the debris trucked away. Foundations for new above-ground facilities will be poured, and the facilities will be built. These types of equipment will be used: dump trucks; back hoes and front-end loaders; bulldozers; clamshell and other cranes; concrete mix trucks; concrete pumpers; compressors; jack hammers; graders; pavement rollers; various power saws and drills.

Along the pipeline route, a trench will be dug. The new pipe will be placed and connections with existing pipes will be made. Temporary trench covers will be used. The pipe will have a cushion and a covering of sand. Pavement will be replaced along the trench. These types of equipment will be used: pavements saws and breakers; back hoes and front-end loaders; dump trucks; compressors; pavement rollers.

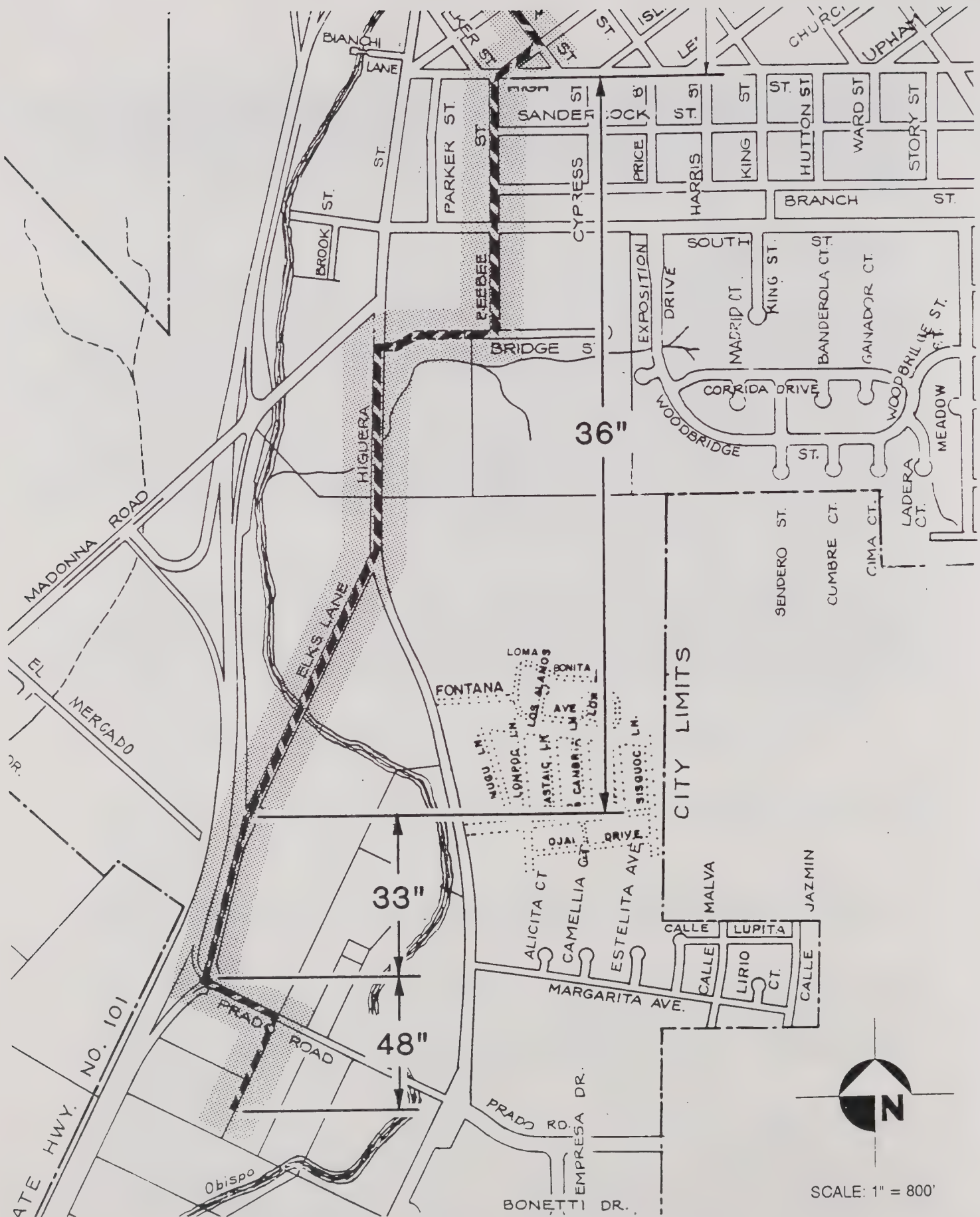


FIGURE 4A - SEWER LINE REPLACEMENT



FIGURE 4B - SEWER LINE REPLACEMENT

Capacity Change

The plant improvements will substantially increase treatment effectiveness and the ability to treat peak wet weather flows, but will increase overall capacity by only about five percent. This increase is more an incidental result of individual process changes intended to improve treatment quality than a deliberate enlargement of capacity. The plant's service area --the urban reserve line-- and the current and projected service area populations will not change as a result of this project.

According to the general plan Water and Wastewater Management Element (most recently amended July 1988), city population is expected to grow as shown in Table 3, which also indicates expected wastewater generation based on studies for the Land Use Element update (in progress). The year 2015 projected wastewater generation shown in Table 3 is about four percent higher than estimated in the Wastewater Management Plan, due to different projection techniques. The project will increase the existing plant's rated capacity of about 5.1 mgd average dry weather flow to almost 5.4 mgd, enough to meet expected demands for the next ten years, through the year 2000. If the project only improved effluent quality with no additional capacity, the existing plant's excess rated capacity, 0.7 mgd or about 14 percent, would probably be sufficient for projected growth through the mid 1990's.

The city is updating the land-use section of its general plan, which may result in adjustments to the urban reserve line, eventual build-out capacity and the relationship between residential and nonresidential capacity, and the planned rate of development. Corresponding changes to treatment plant capacity which may be needed will be evaluated in the general plan update EIR, tentatively scheduled for publication in summer 1990.

Table 3
PROJECTED CITY POPULATION AND WASTEWATER GENERATION

<u>Year</u>	<u>Population</u>	<u>Wastewater Generation (a)</u> (average dry weather mgd)
1990	41,300	4.74
1995	43,400	5.03
2000	45,600 (b)	5.36
2005	47,900	5.64
2010	50,400	5.89
2015	53,000 (c)	6.04

Notes:

- (a) Under non-drought conditions;
- (b) Approximate residential capacity of 1989 city limits;
- (c) Approximate residential capacity of adopted urban reserve line.

Source: City of S.L.O. Community Development Department

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Topography

Setting

San Luis Obispo is located within the middle part of the San Luis Obispo Creek watershed, a group of intersecting valleys bounded by the Irish Hills and the Santa Lucia Mountains foothills. Volcanic morros extend from southeast to northwest between these hills. Ground surface elevations range from about 100 feet to about 700 feet above sea level. Slopes range from level to nearly vertical. Laguna Lake, located on Prefumo Creek upstream from the treatment plants' discharge point, is the only lake and large marsh in the vicinity. The treatment plant is located on nearly level ground near the lower, southwest corner of the city and service area.

Impacts: There will be no impacts on landforms.

Mitigation: None required.

Land Use, Population, Economics, and Housing

Setting

Land use within the service area is primarily residential, with significant institutional, governmental, retail, and service development, and open space. The city's economic base corresponds to these development components. The service area includes very little manufacturing. California Polytechnic State University (Cal Poly), with substantial on-campus housing, food service, and food processing activities, contributes substantial wastewater treatment demand. With the exception of Cal Poly, the county airport, and a few minor developments connected under prior agreements, city wastewater treatment service is limited, in fact and by policy, to the city. Some agricultural land remains within the city's urban reserve line --the ultimate service area-- but the general plan calls for its eventual conversion to urban use.

The treatment plant changes will take place within the existing plant site, a city-owned property which includes the maintenance yard for city water, sewer, parks, streets, and vehicles, a bus maintenance yard, and a materials recycling center. The plant site is shown on the general plan Land Use Element map as, and is zoned, "public facility." Nearby uses include Highway 101, cultivated land, warehousing and service businesses, and mobile home parks.

Of the city's 17,400 dwellings, about 45 percent are single-family detached, about 47 percent are attached or multifamily, and about 8 percent are mobile homes. The city's January 1, 1989, population was 41,027 (estimated by the California Department of Finance). About 3,000 people live on the Cal Poly campus, which is outside the city limits.

Impacts: No impacts are expected, because the project will occur on the existing plant

site and within existing street rights-of-way, and there will be no significant change in treatment capacity.

Mitigation: None required.

Geologic Stability and Soils

Setting

The service area geology is dominated by weathered hills of the Franciscan formation, with recent alluvium in the valleys, including the plant site. The area is subject to earthquakes from the San Andreas fault and many other, smaller faults, including the nearby West Huasna and Edna faults. The city's general plan Seismic Safety Element indicates that the plant site is within the zone of highest liquefaction potential due to general soil type. However, specific site investigations for this and other nearby public facilities have shown no significant liquefaction risk, and therefore no need for special design considerations.

Hillsides and waterways in the vicinity are highly erodible if substantial rains follow wildland fire or construction disturbance.

Impacts: No substantial increase in exposure to geologic risks or increase in erosion potential are foreseen. The project will not indirectly increase development pressures in highly erodible areas, since all the capacity can be used within the city or the relatively gently sloping identified expansion areas. Plant facilities are being designed in compliance with the Uniform Building Code, which assumes a peak ground acceleration of 0.6 g (six-tenths the acceleration of gravity). The geotechnical firm of Staal, Gardner and Dunne, Inc., has conducted a seismic hazard assessment of the site, and concluded that the maximum probable earthquake (having a ten percent probability of being exceeded in 50 years) would produce a peak acceleration not exceeding 0.2 g.

Mitigation: None required.

Climate

Setting

The service area has a Mediterranean climate, with cool winters (rainfall concentrated in December through March) and warm, dry summers (often, no measurable rain June through September). The Pacific high pressure system produces frequent ocean fog and prevailing northwest winds. Winds become southerly at the onset of winter storms. Temperatures rarely fall below freezing or above 100 degrees Fahrenheit. Annual rainfall averages about 22 inches, with a recorded low of seven inches and a high of 56 inches.

Impacts: No climatic impacts are foreseen. The cooling towers may slightly increase humidity and fog formation at the plant site during cold, still weather. This effect is expected to be minor and rare, and would not impair visibility on nearby roads.

Mitigation: None required.

Air Quality

Setting

San Luis Obispo is within the South Central Coast airbasin. A sub-basin includes most of coastal San Luis Obispo County, and the city itself occupies a part of the sub-basin defined by surrounding hills and the inversion layer. Air quality is generally good compared with metropolitan areas, though pollutant concentrations affect visibility and the odor of the air during calm periods. Air quality has also deteriorated in areas close to substantial vehicle traffic, such as downtown and the intersections of arterial streets.

Due to recent, repeated violations of state standards, the area is designated "nonattainment" for ozone, particulates, and sulfur dioxide, under the California Clean Air Act of 1988 (Appendix A). Vehicles are the primary source of carbon monoxide and precursors to ozone. A fossil-fuel power plant and an oil refinery contribute significantly to sulfur dioxide. Land cultivation, open burning, and transportation and industrial sources contribute particulates.

The San Luis Obispo County Area Council of Governments has adopted an Air Quality Attainment and Maintenance Plan (1979). This outdated plan will be replaced by a new plan to avoid and reduce air pollution, being prepared by the Air Pollution Control District, to reflect the California 1988 Clean Air Act.

Impacts

Electricity will be used for pumps and blowers. The largest increase by far in electricity usage will be for the activated sludge aeration blowers. By using about three times as much electricity as now, the project will add to demand for generation. To the extent this demand is met from fossil fuels, air pollution will probably increase.

Alternative treatment methods which could reduce the demand for electricity have been rejected due to their similar or higher costs and their lower effectiveness or reliability, considering San Luis Obispo's wastewater generation characteristics, climate, and disposal options.

Since the project will not significantly change treatment capacity, it does not raise significant issues of population and traffic increases that would conflict with air quality goals.

Construction activities will produce vehicle and equipment fumes, and dust. Quantities have not been estimated, but they are expected to be insignificant in relation to all other concurrent construction sources. Exposed soils will be moistened to prevent blowing dust during construction.

Anaerobic processes (those taking place with an absence of oxygen) are currently generating about three times the desired level of hydrogen sulfide (a mildly corrosive gas with a rotten egg smell). However, hydrogen sulfide emissions to the atmosphere are in compliance with air quality standards, through use of an iron-sponge scrubber used just before plant-produced gas is burned in the cogeneration unit. With the proposed project, dependence on anaerobic digesters will remain about the same, but hydrogen sulfide emissions from incidental anaerobic activity occurring in ponds may be reduced.

Mitigation: None required.

Vegetation

Setting

The service area includes grassland, oak-woodland, and chaparral communities, as well as cultivated land and urban landscaping. San Luis Obispo Creek supports aquatic and riparian communities within a band about 30 to 100 feet wide. The canopy is dominated by willows, cottonwoods, sycamores, and black walnut, while brome grass, thistles, mustard, castor bean, blackberry vines, poison oak, and annis dominate the banks. Cladophora (filamentous algae) and duckweed (small floating plants) typically occupy the stream itself during summer and fall low flow periods. Many species have been introduced, particularly in developed areas upstream from the plant.

The part of the plant site affected by the project contains no significant vegetation, though San Luis Obispo Creek along the easterly edge of the site does have significant trees and understory plants. Appendix D includes species lists for the vicinity.

Impacts: No changes to vegetation are expected.

Mitigation: None required.

Fish and Wildlife

Setting

Major native fish in San Luis Obispo Creek and its tributaries are rainbow trout (a local variety usually called "steelhead"), speckled dace, riffle sculpin, three-spined stickleback, and Pacific lamprey. These fish share the riparian community with several introduced fish species and many mammals, birds, reptiles, amphibians, and invertebrates. One of San Luis Obispo Creek's primary habitat values is being the southernmost stream to currently support a viable steelhead population. The main branch of the creek and its tributaries above the discharge point support 3,000 to 13,000 juvenile steelhead per mile, according to a 1985 census by the California Department of Fish and Game (Western Ecological Services Company, June 1987).

Within the treatment plant itself, the effluent ponds have provided intermittent habitat (feeding and resting area) for resident and migratory waterfowl and for turtles. (These are labelled "north effluent pond" and "south effluent pond" on Figure 3C.) During a November 1989 visit, readily observable birds included domestic pigeons (about 50), mallard ducks (30), coots (50), and crows (2). The ponds are a man-made, relatively low quality habitat offering no cover or nesting sites for birds.

Lists of plant and animal species found along the creek, its tributaries, at Laguna Lake, and in the vicinity are provided in Appendix D.

Impacts: The treatment plant upgrade will enhance native fish habitat by removing unionized ammonia and reducing water temperature, which appear to reduce fish health and act as a barrier to steelhead migration during several life stages. Concerning the sewer main replacement, installing the two new syphons will temporarily disrupt stream habitat. The city's standard mitigation of working during low flows, diverting the flow from work areas, and filtering sediment from the flow will reduce impacts to acceptable levels. The city will return the streambed to its pre-project condition. Work will be carried out under a permit from the California Department of Fish and Game.

Diverting partially treated wastewater from the effluent ponds would reduce their habitat value. The ponds would be retained to hold partially treated effluent during equipment shut-downs, and to equalize flow between the final clarifiers and the cooling towers. Under current operations, one of the two ponds has water several feet deep nearly all the time. Under proposed operations, one pond would hold deep water very infrequently; the other would

have fluctuating but currently unknown water levels. They would continue to accumulate rainfall during the winter.

The Utilities Department is concerned that if effluent was kept in the ponds regularly to maintain habitat, the ponds' capacity for emergency storage would be reduced. Also, the effluent pumped back out of the ponds could be difficult to treat since it would probably have more concentrated nutrients than normal inflows. (Originally intended to provide a "polishing" step for the effluent, the ponds probably result in the effluent being warmer and more contaminated with algae and nutrients, than if they were bypassed.)

The reduction in waterfowl habitat will not be significant.

Mitigation: No additional mitigation is required.

Threatened or Endangered Species

Setting

Three animals designated "rare or endangered" by the California Department of Fish and Game are known to have inhabited the San Luis Obispo Creek watershed within the last decade, if not currently: Pacific pond turtle, two-striped garter snake, and Pacific tree frog. Previous environmental studies for projects near the treatment plant have not indicated their presence in the immediate vicinity. However, treatment plant personnel recently have observed turtles (species not known) in the effluent ponds (John Moss, conversation October 1989), and a city resident recently has seen tracks believed to be those of a Pacific pond turtle near the discharge point (Judy Neuhauser, conversation August 1989). The Pacific pond turtle is the only native turtle known to inhabit the area, and a reproducing population based on released pet turtles of other species is highly unlikely, so the turtles are presumed to be of the rare or endangered species.

Two "category 2 Federal candidate species" plants have been observed upstream from the treatment plant: San Luis Obispo liveforever and San Luis mariposa (Fish and Wildlife Coordination Act Report, San Luis Obispo Creek Flood Control Project, U.S. Fish and Wildlife Service for U.S. Army Corps of Engineers, December 1987).

No other rare, endangered, or threatened species have been identified within the area which could be affected by the project.

Impacts: The project will have no impact on the identified plants, snakes, or frogs. The ponds' role in providing habitat for Pacific pond turtles has not been documented, but is believed to be minor considering periodic draining and lack of bordering plant cover or sandy areas (the sides and edges are compacted soil with gravel or asphalt). However, the ponds are readily accessible from the creek, and probably provide food and resting area when creek water levels are low. Impacts on threatened or endangered species will not be significant. (See also discussion of "Critical Habitats and Wetlands" below.)

Mitigation: None required.

Critical Habitats and Wetlands

Setting

Throughout the state, wetlands have been degraded and substantially reduced by agricultural and urban development. San Luis Obispo Creek from the treatment plant to the Pacific Ocean constitutes one of the county's significant wetlands. Other wetlands in the vicinity are upstream San Luis Obispo Creek, its tributaries, Laguna Lake and marsh, and marshy areas near Los Osos Valley Road at Highway 101. The creek and nearby lake and wetlands are highly valued habitats. They have not been designated as "critical areas."

The effluent ponds, and other water-holding structures at the treatment plant, are not considered by the city to be "wetlands." While they contain water most of the year, and some contain small aquatic plants and invertebrates, their artificial containment and periodic manipulation of water levels as part of the treatment process and maintenance remove them from even the "man-made" wetlands category.

The city has reviewed the California Natural Diversity Data Base, Plot Report Part 2 and U.S.G.S. 15-minute quadrangle overlays. These indicate plant species of concern within the city's planning area, but none within areas that will be affected by the project.

Impacts: The project will not impact any of the wetlands or potentially critical habitats that may be designated as critical areas. Nearly all existing wetlands are designated for open space by the city's general plan. Open space designations may be enlarged and protections may be enhanced by the general plan update which is underway.

Mitigation: While it appears that no mitigation for this project is required under state or federal laws, mitigation for changes to the effluent ponds has been recommended by the California Department of Fish and Game and accepted by the city. The project does provide an opportunity to create wetlands which would benefit waterfowl and turtles. Further, the created wetland would replace some of the natural wetlands which have been lost or degraded in the past by human settlement in the San Luis Obispo area. Since the pastures north of the effluent ponds will no longer be irrigated with effluent, and no municipal facilities are proposed to occupy them, part of their area is reserved for development of a pond.

The pond will provide three to four acres of open water. Creation of the pond will be achieved by a shallow excavation (one to three feet deep) with natural soil bottom and sides, planting native vegetation at the edges, and installing valves and pipes to allow diversion of some fully treated effluent. (Alternatively, pond water could be supplied from a well.) The pond will be close to the roadway which generally parallels the western bank of the creek, to allow movement of small mammals, reptiles, and amphibians from the creek to the created wetlands. However, there would be no direct outlet to the

creek, to avoid accidental overflow of low quality pond water to the creek. To avoid overflow, inflows would be reduced below evaporation/percolation rates as the rainy season approaches. Alternatively, the pond may conduct flows from the final treatment step to irrigation uses. To avoid odors, treated effluent would be used to supply the pond. To avoid mosquitoes, the pond would be stocked with mosquito fish; flies would be discouraged by keeping water levels fairly constant, rather than allowing large algae mats to develop and dry out.

Monitoring: Planning staff will check construction plans to make sure project design will accommodate the ponds, and will work with other city staff and the Department of Fish and Game to design and develop the pond.

Wild and Scenic Rivers

There are no designated "wild and scenic" rivers within the service area or the county.

Groundwater

Setting

The sewage collection system, the plant site, and San Luis Obispo Creek overlie the San Luis Obispo Creek groundwater basin. This basin is comprised of many partially separated but poorly understood sub-basins, probably corresponding with the prehistoric locations of streams and the current outflows from fractured rock of surrounding hills. Depth to usable groundwater varies from about 30 feet to over 150 feet. Quantity and quality of groundwater are highly variable with relatively small differences in location of wells. Groundwater is used by crops and livestock, individual homes and businesses, and the city. Previous reports have indicated the whole basin is being overdrawn (EIR for the County Land Use Element and Land Use Ordinance, 1980), but recent investigations concluded that the city's central and southern subbasins could supply some additional water (City Water Wells initial study, ER 44-88).

Impacts: The project will not significantly change average quantities of influent or effluent. The project will improve the quality of effluent, and therefore quality of the water in San Luis Obispo Creek and the quality of groundwater recharged by the creek.

Mitigation: None required.

Agricultural Land

Setting

Parts of San Luis Obispo and the surrounding area are prime farm land: U.S. Soil Conservation Service Class I and II soils, within the mild coastal climate, and generally with

creek and/or groundwater available. Significant non-urbanized Class I and II soils within the service area and in the vicinity of the plant include:

- The Dalidio expansion area west of Highway 101 (180 acres);
- Parts of Irish Hills expansion area west of Los Osos Valley Road (about 100 acres);
- The drive-in theater area north of Prado Road (about 30 acres).

Additional non-urbanized Class I and II soils are found in the Foothill Boulevard, Higuera Commerce Park, airport, Margarita, Orcutt, and Edna-Islay parts of the service area.

The California Department of Conservation has mapped prime farm lands in the area (Appendix Figure B).

Impacts: No significant changes to soil erosion or urbanization of agricultural lands will result directly from the project. However, improving treatment effectiveness and expanding treatment capacity will remove obstacles to urban development, some of which will probably occur on prime agricultural lands designated for urban use by the city's general plan. Prime lands as defined by the California Department of Conservation and within the city limits, where urbanization is most likely to be enabled by the project, are the drive-in theater area near Elks Lane and parts of the southern 30 acres of Higuera Commerce Park which remain open. Other "prime" lands and lands classified "of statewide importance" or "of local importance" are within the urban reserve line, but outside the city limits, and probably would be urbanized only as a result of future expansion of treatment plant capacity. The project will not significantly change the likelihood of prime farm land being urbanized.

The California Department of Conservation has designated the city-owned property between the treatment plant itself and the discharge point as "unique farmland -- land of lesser quality soils used for the production of the State's leading agricultural cash crops." However, city staff believes that at least for the last 30 years, the area was used only for irrigated pasture.

(In considering the general plan update, the city's Planning Commission has tentatively supported protection for prime farmlands in and near the city, though no specific changes to the plan map have been proposed by the time this draft EIR was prepared.)

Mitigation: None required.

Cultural Resources

Setting

The entire length of San Luis Obispo Creek probably hosted Chumash activities at some time, since it was a year-round source of water and food. While the creek channel has been altered by flooding, and by development and flood-control projects, areas close to the creek, including the treatment plant site, are likely to contain some evidence of pre-European

settlement. The plant site has been surveyed by an archaeologist, who observed no surface evidence of archaeological resources (Clay Singer & Associates, December 1989 report, included as Appendix E.)

Streets where sewer mains or laterals are to be replaced may contain historical or archaeological resources, particularly near downtown and the Mission. Surface surveys of these areas would not be useful, since they are paved.

Impacts: Excavations for pipes and tanks could damage or destroy archaeological resources. Impacts will be minimized by the recommended mitigation.

Mitigation: A qualified archaeologist will train city public works inspectors and the project's construction contractors in how to recognize resources that may be encountered. In addition, the archaeologist will be present to make spot inspections in sensitive areas.

If excavations encounter archaeological resources, construction activities which may affect them shall cease. The Community Development Director shall be notified of the extent and location of discovered materials so that they may be recorded by a qualified archaeologist. Disposition of artifacts shall comply with state and federal laws. A note concerning this requirement shall be included on the grading and construction plans for the project.

Monitoring: Planning staff plan-checking, and site visits during construction.

Coastal Zone

Setting

The site and the service area are not within the Coastal Zone, but San Luis Obispo Creek -the point of disposal-- has its estuary within the Coastal Zone, several miles away. The California Coastal Commission staff has indicated that a coastal zone permit is not required.

Impacts: Beneficial impacts through improved water quality are expected.

Mitigation: None required.

Flood Plain

Setting

The plant is within Zone B of the National Flood Insurance Program map, meaning it is subject to flooding to a depth of one foot or less approximately once in 100 to 500 years.

The creek channel is in Zone A, and is likely to flood to the top of its banks at least once in 100 years. Appendix Figure C shows flood zones within the city, in the vicinity of the plant. While the plant site once was within Zone A, a flood control project along San Luis Obispo Creek reduced the expected flood level. The plant site is not protected from flooding by levies. The berms referred to in the project description are to contain accidental effluent spills from the treatment facilities.

Impacts: None.

Mitigation: None required.

Aesthetics

Setting

The treatment plant itself is visible from Highway 101 from both travel directions, for about one-half mile. The southerly pasture and pond area are visible from more of the highway and from the Los Osos Valley Road overcrossing of San Luis Obispo Creek. The existing chlorination building is visible from the second story of houses along the creek in the Meadows subdivision. Dense willows and other riparian plants screen most of the site from neighboring commercial and residential uses on the east side of the creek.

Impacts: The appearance of the plant would not change significantly. Most of the new or changed facilities will be below ground. Existing landscaping, and proposed landscaping at maturity, will screen most of the above-ground equipment from off-site views. Existing oleander and cypress along the highway and Prado Road will remain. Existing willows along the creek will remain, screening the site from views from the mobile home parks along South Higuera Street.

Proposed planting includes California pepper, lemon bottlebrush, cork oak, glossy privet, Mondell pine, Pittosporum tobira, Catalina cherry, and cape honeysuckle. (Two pines and two carrotwood trees near the new clarifiers will be removed, but their screening functions will be replaced by proposed planting.) Current planting plans do not indicate screening for the cooling towers, which will be located near the Los Osos Valley Road overcrossing. Without additional planting, the cooling towers would be visible from the Motel 6 area across Highway 101 and from the second floors of houses in the Los Verdes area, across the creek.

The project will slightly reduce odors from the plant, particularly from wastewater that is stored awaiting treatment during the winter. The stored wastewater will have received primary treatment, and later treatment steps will be more aerobic, reducing hydrogen sulfide production.

Mitigation: Prepare for approval by the Architectural Review Commission a planting plan emphasizing use of native trees to screen the cooling towers from off-site views. Carry out the approved planting plan.

Monitoring: Planning staff plan-checking, and site visits during construction.

Noise

Setting

Existing mechanical equipment at the site produces noise, which is largely limited to the plant site. No sensitive receptors, as defined in the city's general plan Noise Element, are adjacent to the site. The pipeline route does pass sensitive receptors: Mission School (Nipomo and Peach streets) and Sierra Vista Hospital (Lemon and Montalban streets), and well as several residential areas (Village Motel and Mobile Home Park and houses and apartments in the areas of High Street, Nipomo Street, and Lincoln Street).

Impacts: The blowers for the activated sludge process will add to noise levels at the plant, but are not expected to perceptibly increase noise exposure off the site.

Construction at the plant site and along the pipeline route will result in noise from construction vehicles and equipment. Noise will be produced by engines and exhausts, as well as back-up warning devices, and scraping, dumping, and impacts. Sound levels at 200 feet from the equipment are expected to range from about 63 to 79 decibels on the A-weighted scale (dB[A]). Most of the plant construction noise will originate at least 200 feet from dwellings. The pipeline noise will be produced as little as 50 feet from dwellings, but 100 to 200 feet from other sensitive receptors, and will produce noise levels as high as 88dB(A). (Noise levels from "Noise from Construction Equipment and Operation of Building Equipment and Home Appliances," Bolt, Baranek, and Newman for U.S. E.P.A., 1971.)

Noise levels above 70 to 75 dB(A) will be annoying. Noises above about 80dB(A) will disrupt indoor conversation or study. They will make use of yard areas unpleasant. These levels are expected to last three or four days at each receptor, and will be similar to other major street and utility construction projects routinely carried out in the city.

To avoid major disruptions to normal traffic flow, pipeline replacement at some intersections was proposed to occur at night. Work schedules which would minimize detours during heavy traffic times on segments of state highways 1 and 227 were proposed. These locations are:

South Street at Beebee Street, where work was proposed to occur from 9 a.m. to 3 p.m. and from 6 p.m. to 10 p.m., with some road lanes remaining open during the work. The 6 p.m. to 10 p.m. work period has been rejected since it would expose residents of the nearby mobile home park and apartments to unacceptable noise levels. This intersection will be affected for four or five days.

Higuera Street at Nipomo Street, which would be closed completely from 6 p.m. to 8 a.m., excluding Thursday night, for about three nights. The noise exposure for nearby residents, especially on Dana Street, will be undesirable. However, this exposure is seen as an acceptable tradeoff to the traffic congestion, added air pollution, and added daytime noise exposure from detoured traffic along residential streets which would result from daytime intersection closure.

Santa Rosa Street at Montalban Street, which would be reduced to one lane in each direction from 7:00 p.m. to about 6:30 a.m. The undesirable nighttime noise effects are seen as an acceptable tradeoff to the substantially greater daytime traffic congestion and safety hazards which would result from constraining or rerouting Santa Rosa Street traffic around blocks which serve as freeway access. This intersection would be affected for three nights.

Noise from vehicles carrying soil, demolition debris, and construction materials will add to typical "background" truck traffic levels along routes serving the construction sites. About 5,000 cubic yards of soil will be removed from the plant site, to accommodate the aeration tanks and other below ground facilities. Highway 101 and Prado Road will be primary routes. South Higuera Street and Tank Farm Road are also expected to carry substantial construction traffic.

The project will temporarily but unavoidably increase noise exposure to undesirable levels, especially along the pipeline route. This impact will be short-term but significant, even with the proposed mitigation.

Mitigation: Except for the night work to avoid daytime intersection closures described above and emergencies (such as broken pipes), construction activities will be limited to Monday through Friday, 7:00 a.m. to 6:00 p.m. (They will typically be from 7:30 a.m. to 4:30 p.m.). Mufflers will be kept in proper condition.

Monitoring: Provisions limiting hours will be included in construction documents, and Public works inspectors will observe activities.

Recreation

Setting

No recreation areas about the treatment plant. The city may develop a pedestrian trail along the creek.

Impacts: The proposed project would not impair development of a trail.

Mitigation: None required.

Open Space

Setting

The plant site borders San Luis Obispo Creek, an open area planned to remain so, and lies across Highway 101 from the cultivated Dalidio area, planned for eventual urbanization.

Impacts: No impacts are expected.

Mitigation: None required.

Sensitive Areas

Setting

As discussed above under the named topics, no impacts are foreseen on: agricultural lands; coastal zone; wild and scenic rivers; floodplains; critical habitats (including significant wetlands), or public open space.

Impacts: No impacts are expected. The treatment plant site itself will not be expanded. The pipeline route is within a developed area. The nominal increase in treatment capacity will not induce growth in environmentally sensitive parts of the ultimate service area.

Mitigation: None required.

Energy

Setting

The plant currently uses about 1.75 million kilowatt-hours per year (kwh/year).

Impacts: Electricity use will approximately triple with use of the activated sludge system, to roughly 5 million kwh/year. If used, ozonation would also add to electricity demand. Cursory investigations of generating power on-site from wind

generators or from using additional methane production to supplement plant energy demands have concluded that these sources are not currently feasible. The city has implemented programs to reduce energy use and to use cogeneration from methane and hydropower in city facilities. In the context of San Luis Obispo, this increase in electricity usage is significant and long term, but it is an unavoidable consequence of the project.

Mitigation: None available.

Transportation and Circulation

Setting

The plant is conveniently located with respect to Highway 101 and South Higuera Street, a four-lane arterial. Service vehicle traffic need not pass through residential areas.

Impacts: Impacts will not be significant.

Plant site construction traffic will increase congestion and delay on South Higuera Street in the vicinity of Prado Road and Tank Farm Road intermittently for the 18 to 24 months construction is underway. However, no significant changes in levels of service are expected.

Replacing the sewer main will temporarily disrupt traffic along the pipeline route, generally affecting two or three blocks at a time. The affected street segments and intersections will remain accessible for emergency vehicles and adjacent residents and businesses, but drivers' preferred routes will be subject to delays or temporary closures. Construction will be timed to avoid times and locations of major congestion, such as commercial areas during the Christmas season. Also, public works will keep emergency services informed of limitations along access routes.

The upgraded plant will require a small increase in employee and service-vehicle trips (delivery of chemicals), but no significant changes in the type or amount of traffic are expected.

No aspect of the project will permanently change the road system.

(See also the discussion of intersection closures and noise exposure discussed under "Noise" above.)

Mitigation: No mitigation in addition to customary procedures is required.

Public Services

Setting

San Luis Obispo provides police, fire, streets, transit, water, recreation, planning, and human relations services within its jurisdiction. It provides library services in cooperation with the county. Public schools are operated by a district extending beyond the city.

Impacts: The increased amount and complexity of equipment to maintain will probably offset the increased reliability of equipment, resulting in a minor increase in demands for wastewater treatment personnel, contract services, or materials. No other impacts on public services are expected.

Mitigation: None required.

Public Safety

Setting

The treatment plant currently uses chlorine gas for disinfection of the effluent. There are no residential areas or public assembly buildings abutting the treatment plant site.

Impacts: The treatment plant will continue to use chlorine gas for disinfection of the effluent, and sulfur dioxide gas to dechlorinate the effluent just before it is discharged. Use of these gases poses a risk to residential areas near to and downwind from the treatment plant. In April 1989, the city Fire Department identified several deficiencies in the city's facilities and procedures for handling these toxic gases, and in dealing with other emergencies at the treatment plant. The status of these deficiencies is:

1. **Problem:** Chlorine leak-detection equipment notifies plant standby personnel, not the Fire Department, possibly causing a significant delay in needed emergency response. Also, the monitor at the north chlorine station may not properly detect a leak.

Response: In July 1989, newly installed chlorine and sulfur dioxide leak-detection and notification equipment was functional, employing city telemetry, a private alarm company, and the city fire and police dispatch center.

2. **Problem:** A water spray would be critical in stopping or reducing a toxic chlorine cloud, but no hydrants are available within a usable distance.

Response: Water lines and hydrants will be installed as part of the unit 4 upgrade.

3. Problem: Fire access roads within the plant site are not the required 20-foot width, which is a particular concern near the proposed caustic soda storage area.

Response: Proper access roads will be completed as part of the unit 3 upgrade.
4. Problem: Chlorine and sulfur dioxide tanks are not properly secured to prevent movement and damage during an earthquake.

Response: The tanks have been secured.
5. Problem: Chlorine tanks at the north chlorine station are exposed and subject to vandalism.

Response: The chlorine shed will be replaced as part of the unit 4 upgrade.
6. Problem: If the wooden shed covering the north chlorine tanks caught fire, the heat would melt the release plugs, causing a toxic cloud.

Response: The chlorine shed will be replaced as part of the unit 4 upgrade.
7. Problem: The state-required emergency response plan for the treatment plant has not been completed.

Response: Staff plans to contract for preparation of the plan.
8. Problem: The (existing) south chlorine station is critically close to a residential area. Prevailing winds are toward the residences. A leak from this location could kill several people.

Response: A secondary containment and scrubbing system for chlorine and sulfur dioxide will be completed as part of the unit 4 upgrade.

The Utilities Department had previously indicated that chlorine safety items (2, 5, and 6 above) would be completed as part of unit 3 improvements. Since unit 3 plans and specifications are nearly complete, these items will be included in unit 4. Both units will be completed about the same time, so inclusion in unit 4 will not delay completion of the safety modifications.

In summary, the treatment plant upgrade will comply with the 1988 Uniform Fire Code, which will make the plant safer than it is. No additional, discretionary mitigation is required.

Waterborne hazards: Any process which treats organic materials with chlorine can produce trihalomethanes, substances which can cause cancer when ingested, even at very low concentrations. Creation of trihalomethanes has been a

concern in water treatment processes (where drinking water is chlorinated). Trihalomethanes may be produced in the current wastewater treatment process. The effluent has not been tested for them. The proposed treatment process could continue to produce them. However, their levels would be expected to be lower than with the current process, since there would be less organic material in the effluent at the chlorine contact stage.

There will be a minor increase in risks to public safety from use and transportation of caustic soda, which will be used in the treatment process. The risk will be adequately mitigated by secondary containment around the storage area, staff training and procedures in normal use and accident response, and state and federal regulation of transportation.

Transportation hazards: As discussed under "Transportation and Circulation," the project is not expected to interfere with emergency response.

Mitigation: No additional mitigation is required.

RELATIONSHIP TO OTHER PLANS

Water Quality

The project is consistent with and will help implement the Water Quality Control Plan, Central Coast Basin (adopted 1975).

Air Quality

The project will not violate the Air Quality Attainment and Maintenance Plan (adopted 1979). By using additional electricity, the project will add to demand for generation, and may therefore increase air pollution to the extent fossil fuels are used by the serving utility (Pacific Gas and Electric, which uses oil, natural gas, hydro, nuclear, and wind sources at many stations throughout central and northern California). The relationship between this added demand for electricity and plans for San Luis Obispo's, or other, airbasins cannot be determined at this time.

The city's projections of service area population (Table 3) are lower than those contained in the adopted air quality plan (about 13 percent less in 1990, 16 percent less in 1995, and 20 percent less in 2000). (Revised projections will be included in the forthcoming revised Air Quality Attainment and Maintenance Plan for compliance with the California Clean Air Act.)

ALTERNATIVES

The following broad alternatives have been considered.

"No Project"

Description

The city would continue to operate its treatment plant without modification.

Rejected because: The city must modify its treatment method to meet water quality standards. The "no project" alternative cannot be further considered.

Irrigation Reuse

Description

The city would treat its effluent to a level that would allow irrigation of parks, landscaping, or crops. Stream disposal would be reduced or eliminated, to avoid having to meet the stream discharge requirements.

Rejected because: The level of treatment would have to be the same as or higher than that for stream disposal. The city does not have or plan to obtain control of sufficient land to fully use treated effluent throughout the year. The irrigation water might have to be pumped long distances. Total diversion from stream disposal would eliminate summer flows below the discharge point, harming aquatic habitat.

(The city is considering partial irrigation reuse, with near-term applications probably limited to highway rights-of-way and existing parks which could be easily reached by way of short, new pipes or abandoned petroleum transportation pipes. In the more distant future, the effluent may be used to irrigate street landscaping, parks, or school grounds, or golf courses, in the major expansion areas identified in the city's general plan Land Use Element. Stream disposal would be reduced, but not below a level needed to sustain fish habitat in the lower reaches of San Luis Obispo Creek. A separate environmental review would be conducted for any proposal to divert effluent from stream disposal.)

Stream Improvement

Description

Rather than trying to remove all nutrients and reduce effluent temperature solely through conventional means within the treatment plant, the city would reestablish native riparian vegetation downstream from the discharge point and irrigate strips along the creek banks, with the aim of achieving habitat improvement equal to that resulting from a "full compliance" single-point discharge.

Rejected because: This alternative was not acceptable to the Regional Water Quality Control Board.

Groundwater Recharge

Description

Effluent would be spread on the ground in areas where it would most effectively percolate into aquifers (water-bearing sands and gravels).

Rejected because: The level of treatment would have to be the same as or higher than that for stream disposal. The city does not have or plan to obtain control of sufficient land to fully use treated effluent for recharge. Diversion from stream disposal would reduce summer flows.

(Partial irrigation reuse would result in some incidental groundwater recharge.)

Laguna Lake or Marsh

Description

Effluent would be discharged to Laguna Lake, or to its existing or an expanded marsh area.

Rejected because: The level of treatment would have to be the same as or higher than that for stream disposal. Lake eutrophication was a concern.

Industrial Reuse

Description

Effluent would be delivered to industries that could use it in manufacturing processes.

Rejected because: There is insufficient existing or projected demand for effluent. Required treatment levels are not known.

Aquaculture

Description

Nutrients and toxics would be removed through a process similar to hydroponic culture, such as raising water hyacinth and fish.

Rejected because: Reliability and effectiveness appeared to be less assured than conventional processes in this setting.

Domestic Reuse

Description

Effluent would be treated to a level allowing full domestic reuse.

Rejected because: This approach would require a substantially higher level of treatment, including additional energy and chemical use.

Ocean Outfall

Description

Effluent would be piped to the ocean.

Rejected because: High capital costs would more than offset a possibly reduced level of treatment. Construction of a pipeline to the ocean would disrupt other

environmental features. The potential for beneficial reuse in the San Luis Obispo area would be reduced or eliminated.

The chosen alternative of "full compliance" with regional board requirements and continued stream disposal, keeping open the option of partial reuse for agricultural or landscape irrigation, was selected as the most cost-effective, reliable, and environmentally benign option.

Relatively minor differences in treatment techniques, flow rates, and equipment sizes were evaluated through the pilot program. The pilot program ran effluent through small-scale versions of the proposed equipment, to evaluate the sequence of treatment steps, and the effectiveness of the activated sludge process and the cooling tower, and ozonation vs. chlorination.

Consideration of other plant sites is not warranted, since the proposed new facilities, and additional future facilities anticipated to provide expanded capacity, can be located within the existing plant site.

IRREVERSIBLE COMMITMENTS OF RESOURCES SHORT-TERM USE IN RELATION TO LONG-TERM PRODUCTIVITY

Use of fuel for project construction and use of electricity and chemicals to operate the upgraded plant will be irreversible. The amounts consumed are believed to be small in comparison with demands and supplies for such items throughout the region and state.

The project will use no more land than the current plant.

The method and location of treatment will keep open options for effluent disposal or reuse, including ocean outfall, landscape or agricultural irrigation, or industrial reuse.

CUMULATIVE IMPACTS

No other changes to wastewater treatment plants or to activities which discharge water to San Luis Obispo Creek are proposed.

There will be some other, smaller projects involving utility line replacement, street resurfacing, or construction of buildings or public facilities within the San Luis Obispo area, while the proposed project is underway. They will add to noise, air pollution, and traffic congestion. Because the exact timing and location of these other potential projects are not known, cumulative impacts cannot be accurately assessed. The city will coordinate its wastewater project with other proposed city street and utility projects, and with gas and electric utility projects, to avoid excessive disruption. In some cases, the coordination may result in more intense activity in one location, but shorter duration of activity.

Other than possibly construction noise and traffic disruption, no types of cumulative are foreseen.

GROWTH-INDUCING IMPACTS

The roughly five-percent nominal increase in plant capacity would allow development equal to about two years' construction at recent rates, or about five years' worth at rates planned for the period following 1990. This amount of development would be about 15 percent of that which could be accommodated within the city's ultimate service area (the urban reserve line shown in its general plan Land Use Element). If the recent mix of residential and nonresidential developments continues, the expansion capacity could accommodate about 500 dwellings, plus an undetermined amount of retail, office, institutional, and industrial development.

Providing additional wastewater treatment plant capacity will not automatically lead to additional growth, which is subject to other regulations and policies. The added capacity will raise one of the thresholds which constrains growth. Other constraints include water availability, air quality, road capacity, and residents' desires for the size and pace of change within the community, reflected in the general plan and growth management regulations.

Currently, water supply is the principal limiting factor for growth. The city's normal water use level has exceeded the safe yield of its permanent water sources, leading to building restrictions and rationing for water customers. These restrictions are expected to be in effect at least through spring 1990, perhaps for several years. The city has planned to expand its water supply corresponding approximately to its plans for expanded wastewater treatment capacity.

Remaining, unused wastewater treatment plant capacity and the five-percent nominal increase are expected to be used by development projects within the existing city limits, as vacant land is built on and some sites are reused for more intensive development. A resource demand assessment currently underway as part of the general plan update will provide more precise information on development and resource capacities.

Growth-inducing impacts are not considered significant.

RESPONSIBLE AGENCIES

The following agencies in addition to the city may have review or permitting authority for the project:

California Department of Fish and Game (for streambed alteration agreement where new syphons would be installed);

California Water Resources Control Board - Division of Grants and Loans (for financial assistance);

San Luis Obispo County Air Pollution Control District (for permit to construct/operate wastewater treatment plant facilities).

ORGANIZATIONS AND PERSONS CONSULTED

Larry Allen, San Luis Obispo County Air Pollution Control District

Pervaiz Anwar, Brown and Caldwell Consulting Engineers

David Dixon, San Luis Obispo County Air Pollution Control District

John Goni, Regional Water Quality Control Board

Gary Henderson, Engineering Associate, City of San Luis Obispo

William T. Hetland, Utilities Director, City of San Luis Obispo

Emily H. Kishi, California Department of Conservation, Office of Land Conservation

Robert Koster, San Luis Obispo County Air Pollution Control District

Martin Luschei and others, on behalf of Creekside Homeowners Association

Azee Malik, Brown and Caldwell Consulting Engineers

Mark Markwart, Wastewater Treatment Plant Operator

John Moss, Wastewater Division Manager, City of San Luis Obispo

Samir Nessim, Division of Grants and Loans, State Water Resources Control Board

Allan Patton, Environmental Services and Special Assignment Unit, Division of Grants and Loans, State Water Resources Control Board

Dave Romero, Public Works Director, City of San Luis Obispo

Karen Worcester, California Department of Fish and Game

PREPARATION OF REPORT

This report was prepared by the staff of the City of San Luis Obispo Community Development Department, including:

Randy Rossi, interim director
Glen Matteson, project planner
Allen Hopkins, administrative services
Rick Hocker, graphic services

COMMENTS & RESPONSES

Following are written comments received during the public review period. The numbers of comments and responses correspond to numbers noted on the following letters.

1. S. L. O. County Air Pollution Control District

Comment: Significant air quality impacts are unlikely.

Response: None required.

2. S. L. O. County Environmental Coordinator

Comment: Further environmental review will be required if any of the rejected treatment/disposal options are considered in the future,

Response: The city will conduct another environmental review of any proposal to divert effluent from San Luis Obispo Creek. The final EIR will acknowledge this.

3. State Water Resources Control Board

Comment: Include a list of potentially significant effects and adopted mitigation measures in the summary of the final EIR.

Response: The discussion on page 4 of the draft will be expanded to do so.

4. State Water Resources Control Board

Comment: A final mitigation plan and monitoring program adopted by the City Council must be submitted.

Response: It will be included in the final EIR.

5. State Water Resources Control Board

Comment: If the city decides to divert effluent for irrigation or other uses, the city should notify the Division of Water Rights to determine if any downstream water rights holders would be injured.

Response: The city will do so. However, the city's position is that downstream users have no legal claim to the effluent since, except during winter peak storm flows, nearly all of it comes from watersheds other than San Luis Obispo Creek, and the rest comes from groundwater. The city may attempt to negotiate agreements with downstream water users who have become dependent on stream flow levels reflecting effluent disposal, so they would receive the benefits of stream disposal in exchange for open space protection, including helping to protect stream habitat from the effects of livestock.

6. State Department of Fish and Game

Comment: The change in operation for the existing ponds at the south end of the plant has a potential for significant loss of open water habitat where such habitat is at a premium. Wetland creation should be made a part of this project.

Response: The city believes that its management of Laguna Lake results in their being more open water habitat than before European settlement, at least in the immediate area. The draft EIR (pages 29 and 30) discusses the potential for creation of pond habitat near the treatment plant. City planning staff recommends that the supplemental pond habitat be created within two years of completion of the treatment plant upgrade. Facilities to divert treated effluent to the new pond should be included in the project plans. If the City Council agrees to this mitigation, it will be included in the final EIR.

7. State Department of Fish and Game

Comment: There are significant benefits to fish and wildlife from discharging well-treated effluent to the creek. If diversion of effluent for other uses is considered, habitat impacts must be identified and mitigation implemented.

Response: The city agrees. The city has asked the Department of Fish and Game for a recommendation on the amount of effluent which should be discharged to the creek, throughout the year and under various natural runoff conditions, to adequately protect the habitat.

8. State Department of Fish and Game

Comment: New construction at the plant site should be well separated from the creek banks, and grading should avoid silt eroding into the creek.

Response: The rebuilt supernatant lagoon will about 20 feet from the westerly creek bank, while all other work at the plant site will be at least 50 feet away. The most substantial excavation (aeration tanks) will be farthest from the creek (about 300 feet). Since the site is nearly flat and excess soil will be promptly removed, the potential for erosion into the creek is minimal. If it appears that drainage would carry silt to the creek, straw bales or other means to divert flow or trap sediment will be used.

9. State Department of Fish and Game

Comment: Any activities which may affect creek banks or riparian vegetation will require a streambed alteration agreement.

Response: None of the work at the treatment plant will affect creek banks. Installing a new sewer main siphon between Lincoln and Santa Rosa streets may require removal of some bedrock and a eucalyptus tree on the east side of Stenner Creek (draft EIR, pages 21 and 27). The city will obtain any needed approvals from, and work within the limits set by, the Department of Fish and Game.

10. Creekside Homeowners Association

Comment: Motors used to aerate the activated sludge process might cause a noise problem. There should be a sound barrier screened with trees.

Response: The shortest distance from the new blowers to a mobile home will be 850 feet. The shortest distances from other major noise sources, such as South Higuera Street and Highway 101 traffic, are about 50 feet and 650 feet, respectively. While the precise noise characteristics of the motors are not known, they are believed to be comparable to the existing large, electric powered motors at the treatment plant. The blowers forcing air into the effluent will be somewhat noisier than motors simply forcing liquid through a pipe. However, the sound of the blowers will not be discernible from, nor add perceptibly to, normally continuing background ("ambient") noise for those living in the mobile home parks near the treatment plant, as stated on page 34 of the draft EIR. Depending on the angle of the straight-line path from the new blowers to the residents, about 100 to 300 feet of riparian trees, as well as existing plant structures and mechanical noise sources, will continue to be between the blowers and the closest residents of a mobile home park. No additional mitigation is necessary.

11. Creekside Homeowners Association

Comment: The height of the plant is a concern.

Response: None of the new facilities will be visible to residents of the mobile home parks. The previously reviewed and approved, single-story electrical switchgear building will be screened by a band of riparian trees at least 100 feet wide. The new cooling towers will be no taller than about twelve feet, and likewise will be screened. Some of the concern about height is probably due to the term "cooling towers," which brings images of towers used at power plants. The proposed structures are more like the evaporative coolers installed on the tops of some buildings in hot, dry climates, only they will be placed on the ground. Also, the small-scale pilot plant included test facilities which were taller than they were wide, appearing tower-like. These items will not be higher in the full-scale plant. The full-scale facilities will increase in width and length, but not height. (The depth of the filter media determines its effectiveness, while its horizontal area determines the amount of effluent which can pass through it in a given period.)

The following agencies acknowledged receiving the draft EIR, but made no comments other than to confirm that no permits or further review was necessary:

E. C. Fullerton, Regional Director
National Ocean and Atmospheric Administration (National Marine Fisheries)
Terminal Island, California

James Johnson, Area Manager
California Coastal Commission
Santa Barbara, California

David Nunenkamp, Deputy Director
State Office of Planning and Research
Sacramento, California

"Notices of Preparation" and draft EIRs were sent to the following agencies, and no response was received:

S. L. O. County Council of Governments
San Luis Obispo, California

National Advisory Council on Historic Preservation
Golden, Colorado

District Engineer, Division of Ecological Services
U.S. Army Corps of Engineers
Sacramento, California

U.S. Fish and Wildlife Service, Sacramento District
Sacramento, California

U.S. Environmental Protection Agency, Region 9, Construction Grants Branch
San Francisco, California

Federal Emergency Management Agency
San Francisco, California

State Conservationist
U.S.D.A. Soil Conservation Service
Davis, California

Land Use Planning Office
U.S. Forest Service
San Francisco, California

California Regional Water Quality Control Board, Central Coast Region
San Luis Obispo, California

AIR POLLUTION CONTROL DISTRICT

COUNTY OF SAN LUIS OBISPO

2156 SIERRA WAY, SUITE B - SAN LUIS OBISPO, CALIFORNIA 93401 - (805) 549-5912

RECEIVED



JAN 03 1990

City of San Luis Obispo
Community Development

TO: Glen Matteson, Associate Planner, City of San Luis Obispo

FROM: Larry Allen, SLO County Air Pollution Control District

DATE: December 27, 1989

SUBJECT: Revised DEIR for Wastewater Treatment Plant Upgrade and Sewer Line Replacement (ER 46-89; SCH# 89092704)

We have reviewed the information provided regarding the above-named project and recommend the following action be taken:

- ☐ There is insufficient information to determine the potential for significant air quality impacts. Please provide the additional information specified on the attached sheet.
- ① ☒ This project is unlikely to cause significant air quality impacts; further consideration of air quality issues is not required.
- ☐ This project is unlikely to cause significant, long-term air quality impacts. Short-term impacts from construction appear likely and should be mitigated to the maximum extent feasible
- ☐ See attached list for recommended mitigation measures.
- ☐ This project has the potential to cause significant air quality impacts. A screening analysis should be performed to determine the worst-case impact potential.
- ☐ See attached sheet for analysis recommendations.
- ☐ This project has the potential to cause significant air quality impacts and will require a comprehensive air quality analysis. The consultant should contact the APCD prior to performing the analysis.
- ☐ This project may be subject to the provisions of the APCD New Source Review Rule. This may include an air quality impact analysis prior to issuance of Authority to Construct.
- ☐ This project will be subject to District permit requirements.

Please contact me at 549-5912 if you require further input or information from our office.

AQP 89250

cc: State Water Resources Control Board

County of San Luis Obispo

COUNTY GOVERNMENT CENTER • SAN LUIS OBISPO, CALIFORNIA 93408 • (805) 748-3011



JAN 18 1990

City of San Luis Obispo
County Development

OFFICE OF THE
COUNTY ADMINISTRATOR

January 16, 1990

Glen Matteson
P.O. Box 8100
San Luis Obispo, CA 93403-8100

re: Comments on the Revised Draft EIR for the Wastewater Treatment Plant Upgrade and Sewer Line Replacement (for the City of San Luis Obispo); ER 46-89, SCH#89092704

Dear Mr. Matteson,

Thank you for the opportunity to review and comment on the draft EIR for the above-referenced project. Staff of the San Luis Obispo County Environmental Coordinator's Office has completed its review of the subject document and has the following comments.

Staff is generally pleased with the completeness of the EIR analysis. Our only comment pertains to clarification within the "Alternative Project" section. We understand that all of the rejected alternatives will not be incorporated as a part of this proposed project. Should any of these "rejected" alternatives be considered in the future, additional environmental review would be necessary to adequately evaluate potential environmental impacts.

Thank you again for the opportunity to comment on the draft EIR. If you have any questions regarding our comments, please feel free to contact me. If any of the "rejected" alternatives (or portions thereof) are being considered as a part of this project or in the future we will look forward to reviewing the documents addressing the potential impacts associated with those alternatives.

Sincerely,

John McKenzie
John McKenzie

Environmental Specialist

c-State Water Resources Control Board
Division of Grants and Loans
Environmental Services Unit
P.O. Box 944212
Sacramento, CA 94244-2120

RECEIVED

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF LOANS AND GRANTS

2014 T STREET

P.O. BOX 944212

SACRAMENTO, CA 94244-2120

(916) 739-4414

JAN 22 1990

City of San Luis Obispo
Wastewater Development

JAN 19 1990

Mr. Glen Matteson, Associate Planner
City of San Luis Obispo
P.O. Box 8100
San Luis Obispo, CA 93403-8100

Dear Mr. Matteson:

CITY OF SAN LUIS OBISPO'S DRAFT EIR FOR WASTEWATER TREATMENT PLANT UPGRADE AND
SEWER REPLACEMENT PROJECT. SCH #89092704

We have reviewed the above document and have the following comments.

1. The City of San Luis Obispo (City) is seeking a State Revolving Fund loan from the State Water Resources Control Board (State Board), and the State Board will be a responsible agency for the subject project. We commented earlier on the notice of preparation and preliminary draft EIR. Please provide a copy of the final document, including comments and responses, the City's findings relative to CEQA, and the notice of determination as soon as available. In addition, we would appreciate notice of any public meeting or hearing related to the document or project.
2. While CEQA itself does not require formal public hearings at any stage of the environmental review process, at least one formal hearing is required for an SRF loan. Notices need to be distributed at least 30 days in advance of public hearings or meetings; copies of the notice and summary of the public review should be sent to the State Board.
- ③ 3. Please include a list of potentially significant environmental effects and adopted mitigation measures in the summary section of the final EIR.
- ④ 4. We will need a final mitigation plan and monitoring program for the project and a document from the San Luis Obispo City Council committing to implementation of mitigation measures.
- ⑤ 5. If, in the future, the City decides to use some or all of the treatment plant effluent for irrigation or other purposes, the City should notify the State Board's Division of Water Rights to determine if any downstream water rights holders would be injured.

Mr. Matteson

-2-

JAN 19 1990

Please call me at (916) 739-4414 if you have any questions.

Sincerely,

A handwritten signature in cursive script, reading "Allan V. Patton". The signature is fluid and extends to the right with a long, sweeping tail.

Allan V. Patton, Chief
Environmental Services and
Special Assignments Unit

cc: Mr. John Goni
California Regional Water
Quality Control Board,
Central Coast Region
1102-A Laurel Lane
San Luis Obispo, CA 93401

Mr. John Moss
City of San Luis Obispo
Utilities Department
955 Morro Street
San Luis Obispo, CA 93401

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

DEPARTMENT OF FISH AND GAME

POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

RECEIVED

JAN 25 1990

San Luis Obispo
Development

January 19, 1990



Mr. Glen Matteson
City of San Luis Obispo
990 Palm Street
San Luis Obispo, CA 93401

Dear Mr. Matteson:

Revised Draft Environmental Impact Report (DEIR) on Wastewater Treatment
Plant Upgrade and Sewer Line Replacements, San Luis Obispo Creek,
City of San Luis Obispo

Department of Fish and Game personnel have reviewed the revised DEIR evaluating the proposed upgrade of the City of San Luis Obispo's wastewater collection and treatment systems designed to meet more stringent federal and state water quality standards. The project will include modification and expansion of existing treatment facilities, as well as installation of 3.2 miles of new sewer lines within the City, to solve stormwater infiltration problems that have resulted in overflow at manholes in the past.

6 It is our understanding from review of the DEIR that existing wastewater ponds which currently provide habitat for resident and migratory waterfowl and southwestern pond turtles are to be used for holding partially treated effluent during equipment shutdowns and for flow equalization between final clarifiers and cooling towers. Water would be present infrequently in one of the ponds, and fluctuate to an unknown extent in the other. The Department considers this change in operation to create a potential for significant loss of existing open water habitat in an area where such aquatic habitat is at a premium. We suggest that wetland creation be an element of this project, perhaps, on pasturelands located north of the ponds. These lands were identified in the DEIR as potential mitigation sites for future projects. We believe such a project element should be undertaken as a part of the current project to offset potential losses of open water habitat resulting from changes in plant operations; and an attempt to establish benefits for wildlife today which can be used as mitigation at a later date.

San Luis Obispo Creek currently supports one of the southernmost runs of steelhead in California, extensive populations of resident fishes and invertebrates as well as a non-profit salmon enhancement program. The Creek also receives treated wastewater discharge from the City's wastewater treatment facilities which has at times exceeded standards for temperature, color, ammonia, nutrients, and other parameters. The resultant water quality degradation has been detrimental to fish life in the creek. Upgrading of this facility, as proposed, will provide greater assurance that fish and wildlife, and their habitat will be adequately protected.

⑦ Due to significant water diversion in upstream areas, treated effluent comprises a major portion of summer flows in lower San Luis Obispo Creek. Although we are not aware of any immediate plans for secondary reuse or reclamation of the City's effluent, we are concerned that improved treatment could stimulate increased demand in the future for reclaimed wastewater for landscape or agricultural irrigation. While we strongly support reclamation whenever feasible, we believe that the benefits to fish and wildlife from continued discharge of a well-treated effluent to the Creek are significant. Should reclamation be considered in the future, impacts to the fish and wildlife from reduction or elimination of flow in this valuable habitat area must be identified and appropriate mitigation implemented.

⑧ We recommend that any new construction for the plant be well away from the creek banks to provide a buffer area for wildlife, and that grading be done in a manner that eliminates any possibility of silt eroding into the creek. Any activities which may affect the creek banks or riparian vegetation associated with them will require a streambed alteration agreement with our Department.

⑨ Thank you for the opportunity to comment on this document. If you have any questions, please contact Ms. Karen Worcester, Fishery Biologist, at (805) 927-8590; or Mr. Mike Rugg, Associate Water Quality Biologist, at (707) 944-5523.

Sincerely,



Brian Hunter
Regional Manager
Region 3

January 25, 1990

RECEIVED
JAN 26 1990
City of San Luis Obispo

Glen Matteson
Community Development
City of San Luis Obispo
P.O. Box 8100
San Luis Obispo, CA 93403-8100

Dear Mr. Matteson;

The new Environmental Impact Report on the proposed upgrading of the city's sewage treatment plant was read and discussed. At this time we would like to make a couple of comments:

⑩ First - the motors that are being used might cause some noise problem.

⑪ Secondly - the height of the plant.

Our concern is that nothing is in the planning in these areas. Our suggestion is to build a sound barrier on the resident side and plant trees to hide it to some degree. We have trees now, but maybe in a few years they might fall or die and have to be removed. Let's look at the future now and not later.

On behalf of the residents of Creekside we hope you will consider our views.

Yours very truly,

Raymond Niemesh

Raymond Niemesh, President
Creekside Homeowners Ass'n.

WASTEWATER UPGRADE EIR - ADDITIONAL COMMENTS & RESPONSES
PLANNING COMMISSION HEARING - FEBRUARY 28, 1990

1. Commissioner Kourakis: What are the anticipated problems that lead to Utilities Department not wanting to create ponds as mitigation for reduced quality of habitat due to changes in the existing ponds?

Utilities Department response: (A) Possible flows from pond to creek, which could be considered violations of the discharge requirements; (B) inability to remove a pond once it is created, due to requirements for wetland protection; (C) possible concentration of contaminants (such as sodium) in the water, if the only outlet from the created pond is evaporation. There are options to creating a pond.

EIR author response: These are valid concerns. (A) Careful design and operation of the pond can avoid overflows. (B) The new pond should be regarded as a permanent feature. No other use for the potential pond site has been proposed. (C) To avoid the problems of a "dead end" pond, outflow from the pond could be used for irrigation.

2. Commissioner Kourakis: What are the options to creating a pond?

Utilities Department response: Determining that improving quality of the discharge is sufficient habitat improvement, or expanding Laguna Lake Marsh.

EIR author response: Mitigation for wetland loss is best achieved by "on-site, in-kind" replacement, which would be ponds at the treatment plant site; creating other types of wetland habitat somewhere else would be less effective mitigation. The city does not own the north end of Laguna Lake where the marsh could be expanded.

3. Ryan Gear (city resident): We should avoid accumulation of toxics in ponds, such as those which have harmed Kesterson area wildlife.

Utilities Department and EIR author response: We can and we will.

4. Commissioners Karleskint and Kourakis: Are the time limits for construction activity adequate to protect residents from noise?

Utilities Department and EIR author response: The 7:00 am to 6:00 p.m. limit is consistent with typical city practice and should avoid most nuisance complaints. Contractors will usually work from 7:30 to 4:30. Reducing the hours which can be worked could increase the number of days required for completion, and project costs.

5. Commissioner Schmidt: Will delaying construction of the pond for two years from plant completion mean four years without ponds?

EIR author response: No. The existing basins will continue to exist, but the amount of water available in them will probably decline. There would be about two years between changed operations of the existing ponds and completion of the new pond.

6. Commissioner Duerk: Are there archaeologically sensitive areas on the site?

EIR author response: The whole site is sensitive, since it lies along a creek. An archaeological surface survey found no evidence of archaeological resources.

7. Will the project increase treatment capacity?

Utilities Department and EIR author response: Capacity will increase by a nominal five percent, well within the city's planned growth.

8. Commissioner Schmidt: The EIR is not adequate because it does not address (A) community economic impacts and (B) cumulative visual impacts of development on city property along the highway.

EIR author response: (A) Economic impacts are outside the scope of the report. They would need to be addressed only to the extent they lead to environmental impacts. Financing for the project (state loan and rate increases) will be considered by the council at public hearings.

(B) The city corporation yard and bus maintenance facility have already been built. The visual impacts of the treatment plant project will be insignificant, since nearly all the pasture will remain open, and the above-ground facilities will be small, set back from the highway, and screened by landscaping. No other projects are proposed for the open, city-owned property in this area, so no cumulative impact assessment can be done.

APPENDIX A
AIR QUALITY LEVELS AND VIOLATIONS

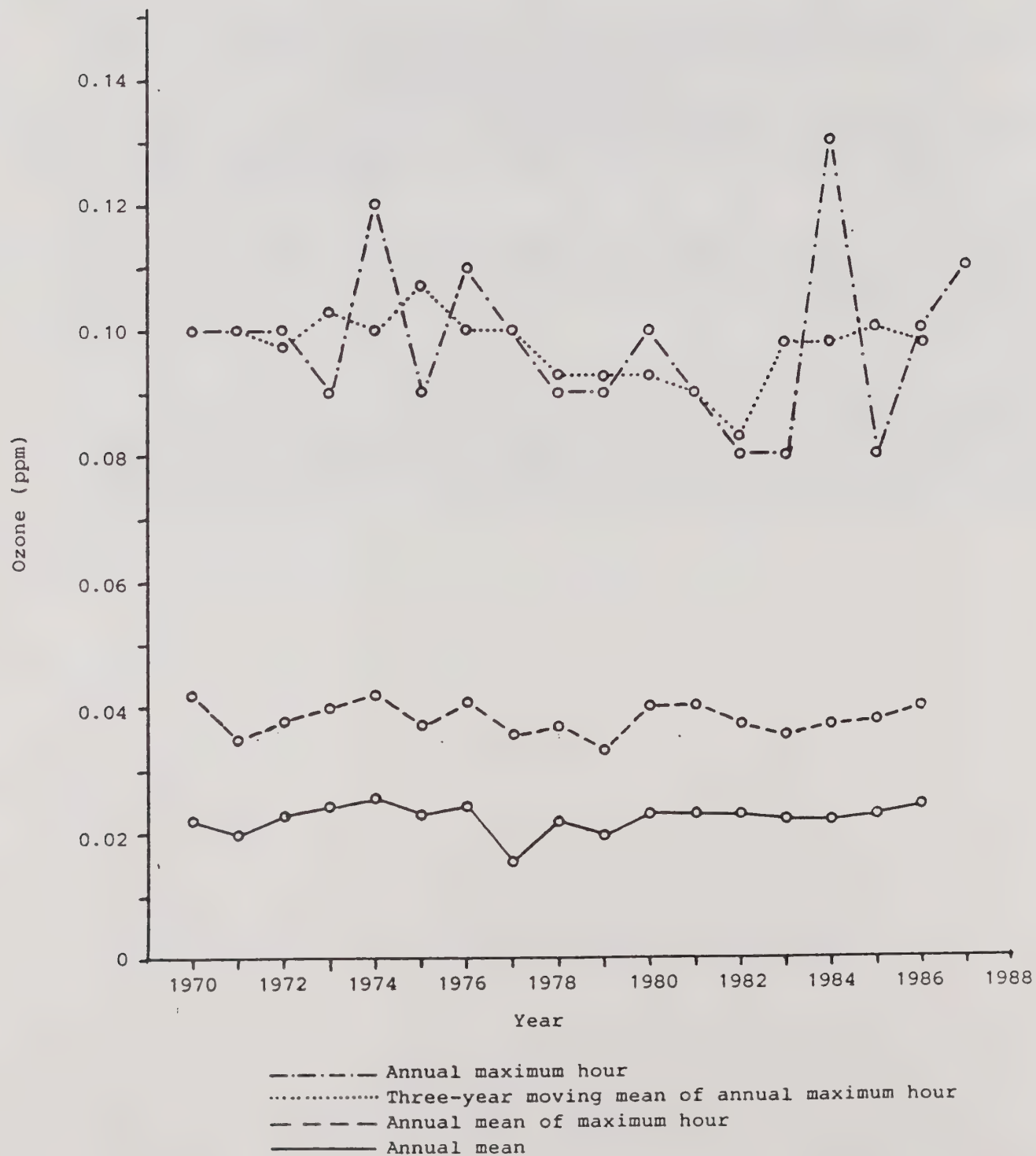
VIOLATIONS OF STATE OZONE STANDARD
(0.09 ppm, 1-hr. average)
IN SAN LUIS OBISPO COUNTY

Year:	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989(a)
Total exceedences, all stations	13	15	10	11	15	15	10	14	6	12	32
Maximum concentration (parts/million)	.14	.10	.10	.13	.11	.16	.11	.10	.13	.10	.15

Notes: (a) Partial data.

Source: San Luis Obispo County Air Pollution Control District, December 11, 1989.

OZONE TRENDS AT SAN LUIS OBISPO
1970-1986



Source: San Luis Obispo County Air Pollution Control District, February 1989.

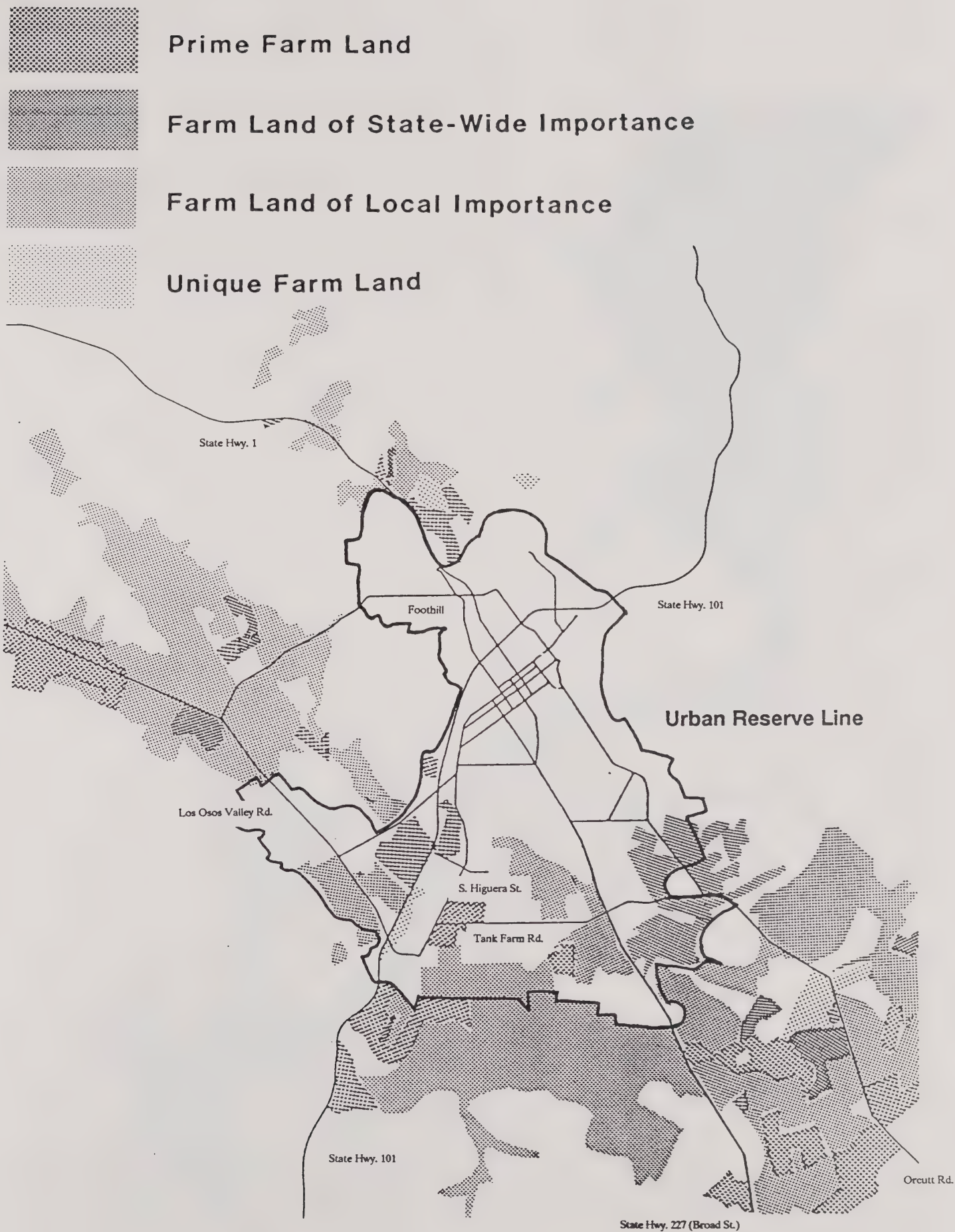


FIG. B PRIME FARM LAND

APPENDIX D

SPECIES LIST - TREATMENT PLANT VICINITY

Source: Final Environmental Impact Statement/Report for the Proposed Upgrading and Expansion of the Wastewater Treatment Plant of the City of San Luis Obispo, California, Earth Metrics, Inc., November 1, 1976.

FLORA OF SAN LUIS OBISPO CREEK AND PREFUMO CREEK AREAS.

Observed -

Artemesia douglasiana
Bacchus pilularis
Brasica sp.
Datura stramonium
Equisetum sp.
Foeniculum vulgare
Juglans hindsii
Juncus sp.
Lemna sp.
Lolium multiflorum
Matricaria matricarodes.

Melilotus albus -
Mentha opicata
Mentha peperita
Parietaria floridana
Platanus racemosa
Populus trichocarpa.
Rhus diversiloba
Ricinus communis
Rubus ursinus
Sambucus caerulea
Salix laevigata

Common to San Luis Obispo Creek Area -

↑
Vinca major -
Betula pendula .
Amsinkia intermedia .
Cryptantha corollata
Plagiobothrys nothofulvus
Spergula arvensis
Convolvulus aridus
Dudleya sp.
Acer necunde
Brodiaea jolonensis
Shinus molle .
Trifolium tridentatum
Vicia americana
Vicia benghalensis .
↑
Vicia exigua
Eucalyptus sp.
Brassica campestris
Dentaria integrifolia
Raphanus sativus
Streptanthus glandulesus
Marsh fabaceus -
Carex senta
Scirpus acutus
Scirpus americanus
Equisetum arvense
Euphorbia lathyrus
Eupherbia peplus .
Ricinus communis
Quercus agrifolia
Quercus dumosa
Erodium moschatum
Geranium dissectum .
Eucrypta chrysanthemifolia

Melica imperfecta .
Melica terrejana
Phalaris aquatica
Polypogon monspeliensis
Stipa Lepida
Stipa pulchra .
Astragalus curtipes
Cytisus monspessulanus
Lotus scoparius
Lupinus albifrons
L. Benthamii
L. Bicolor
L. Succulentus .
Medicago hispila
Melilotus albus .
Melilotus indicus
Trifolium repens
Rubus ursinus
Galium californicum
Galium Nuttallii
Selix laevigata
Lithophragma heterophyllum
Diplacus aurantiacus
Mimulus primuloides .
Scrophularia atrata
Veronica anagallis-aquatica
Nicotiana glauca Graham
Solanum douglasii
Solanum xanthi
Anthriscus scandicina
Bowlesia incana
Conium maculatum
Foeniculum vulgare

↑ Cladophora
Pholistoma auritum
Iris pseudacorus
Sisyrinchium bellum
Juglans hindsii
Marrubium vulgare
Salvia columbariae
Salvia spatheca
Stachys bullata
Umbellaria californica
Eschscholzia californica
Platystemon californicus
Plantago bigelovii
Plantago lanceolata
Plantago major
Planatus racemosa
Bolygonum lapthifolium
Rumex angiocarpus
Rumex conglomeratus
Polypodium californicum
Mentia perfoliata
Anagallis arvensis
Dedecatheon clevelandii
Adiantum capillus-veneris
Pellea andromedaefolia
Pityogramme triangularis
Delphinium parryi
Ranunculus californicus
Ceanothus cuneatus
Rhamnus californica
Adenostoma fasciculatum
Photinia arbutifolia
Potentilla californica
Rosa californica

Lematium carvifolium
Tauschia hartwegii
Urtica holosericea
Viola pendiculata
Malva parviflora
Lavatera assurgentiflora
Achillea millefolium
Artemisia californica
Artemisia douglasiana
Baccharis pilularis
Coreopsis douglasii
Eriophyllum confertiflorum
Hazardia squarrosa
Helenium puberulum
Laethenia chapestoma
Layia platyglossa
Matricaria matricariodes
Picris eschiioides
Sonchus asper
Sonchus oleraceus
Carduus pycnocephalus
Cirsium vulgare
Silybium marianum
Avena fatua
Bromus diandrus
Bromus breviaristatus
Bromus mollis
Bromus orcuttianus
Bromus rubens
Bromus willdenowii
Festuca dertonensis
Festuca rubra
Hordeum leporinum
Koeleria cristata
Melica harfordii

FAUNA OF SAN LUIS OBISPO CREEK AND PREFUMO CREEK AREAS

Aquatic Fauna -

Invertebrates - Bottom Feeders

- Order Ephemeroptera - Mayflies
- Order Diptera - True Flies
- Order Trichoptera - Caddis Flies
- Order Cladocerans - Water Fleas
- Class Hirudinea - Leeches
- Class Turbellaria - Planaria
- Order Pulmonata - Aquatic Snails

Other Invertebrates -

- Order Hemiptera - Bugs
- Order Odonata - Dragonflies and Damselflies
- Order Coleoptera - Beetles
- Order Amphipoda - Scuds and Sideswimmers
- Class Oligochaeta - Bristle Worms

Fish - Native Species -

- Endosphenus tridentatus - Pacific Lamprey
- Cottus sp - Riffle Sculpin
- Rhinichthys osculus - Speckled Dace
- Gasterosteus aculeatus - Three Spined Stickleback
- Salmo gairdneri - Rainbow Trout

Fish - Introduced Species -

- Carassius auratus - Goldfish
- Gambusia affinis - Mosquito Fish
- Ictalurus nebulosus - Brown Bullhead
- Ictalurus punctatus - Channel Catfish
- Lepomis cyanellus - Green Sunfish
- Lepomis macrochirus - Bluegill
- Micropterus salmoides - Largemouth Bass
- Notemigonus crysoleucas - Golden Shiner
- Pimephales promelos - Fathead Minnow
- Pomoxis nigromaculatus - Black Crappie

Riparian Fauna

Reptiles and Amphibians -

- | | |
|----------------------|-----------------------|
| Bullfrog | Garter Snake |
| Red Legged Frog | Gopher Snake |
| Pacific Tree Frog | California King Snake |
| Western Toad | Salamander |
| Alligator Lizard | Pacific Pond Turtle |
| Western Fence Lizard | |

Mammals -

Opossum	Mouse
Shrew	Rat
Mole	Raccoon
Bat	Muskrat
California Ground Squirrel	Rabbit
Gray Squirrel	Striped Skunk
Fox Squirrel	Long-tail Weasel
Gophers	Gray Fox

source: 86

Birds -

Blue heron	Downy woodpecker	Western bluebird
Green heron	Nuttall woodpecker	Water pipit
Bl.-cr. night heron	Western kingbird	Cedar waxwing
Cooper's hawk	Black phoebe	Starling
Red-shouldered hawk	Say's phoebe	Hutton's vireo
Red-tailed hawk	Horned lark	Or.-cr. warbler
Sparrow hawk	Violet-gr. swallow	Audubon warbler
Coot	Tree swallow	Yellowthroat
Killdeer	Bank swallow	Redwing blackbird
Common snipe	Barn swallow	Brewer's blackbird
Mourning dove	Cliff swallow	House finch
Barn owl	Scrub jay	American goldfinch
Great horned owl	Common crow	Lesser goldfinch
Anna hummingbird	Ch-back chickadee	Ruf.-sided towhee
Rufous hummingbird	Plain titmouse	Brown towhee
Belted kingfisher	Common bushtit	Oregon junco
Red-shafted flicker	Wh.-br. nuthatch	White-cr. sparrow
Yel. belly sapsucker	Bewick's wren	Golden-cr. sparrow
Hairy woodpecker	Mockingbird	Fox sparrow
	Hermit thrush	Song sparrow

FLORA OF LAGUNA LAKE AREA

Vegetation of the Open Field (west end)

Anthemis cotula
Calandrinia ciliata
Hypochoeris glabra

Conium maculatum
Plantago lanceolata
Hordum murinum

Raphanus sativus
Spergula arvensis
Malva parviflora
Silybum marianum
Brassica campestris
Medicago hispida
Rumex acetosella
Lupin bicolor

Erodium moschatum
Polypogon maritimus
Baccharis pilularis
Hemizonia parryi
Sonchus oleraceus
Cirsium edule
Erigeron canadensis
Bromus sterilis

Vegetation of the Shoreline

Raphanus sativus
Potentilla anserina
Spergula arvensis
Salix lasiolepis
Scirpus acutus
Polygonum coccineum
Malva parviflora
Silybum marianum
Brassica campestris
Medicago hispida
Lupin bicolor
Plantago major
Lotus corniculatus
Lotus purshianus

Mentha arvensis
Polypogon monspeliensis
Polypogon maritimus
Stachys ajugoides
Hemizonia parryi
Sonchus oleraceus
Cirsium edule
Populus fremontii
Erigeron canadensis
Lippia nodiflora
Gnaphalium luteo-album
Lythrum hyssopifolia
Atriplex patula
Baccharis pilularis

Vegetation of the Marsh Area

Raphanus sativus
Potentilla anserina
*Scirpus acutus
*Polygonum coccineum
Brassica campestris
Medicago hispida
Rumex crispus
Rumex fueginus

Plantago lanceolata
Plantago major
Polypogon maritimus
Cyperus eragrostis
Epilobium watsonii
Sonchus oleraceus
Melilotus indica
Cirsium edule

* Dominant species for this particular habitat.

FAUNA OF LAGUNA LAKE AREA

Animals of Open Field Area

Reptiles and Amphibians -

Western Fence Lizard
Garter Snake
Gopher Snake

Mammals -

Cottontail Rabbit
Black-tailed Jackrabbit
Black-tailed Deer
Pocket Gopher
California Ground Squirrel

Mouse
Rat
Mole
Shrew

Animals of Shoreline Area

Reptiles and Amphibians -

Pacific Tree Frog
Garter Snake
Alligator Lizard

Mammals -

Opossum
Broad-handed Mole
Raccoon

Cottontail Rabbit
Mouse
Striped Skunk

Animals of Marsh and Open Lake

Reptiles and Amphibians -

Bullfrog
Red-legged Frog

Western Aquatic Garter Snake

Mammals -

Muskrat

Fish (most commonly found)

Blue Gill	Lepomis macrochirus
Largemouth Bass	Micropterus salmoides
Rainbow Trout	Salmo gairdneri
Black Crappie	Pomoxis nigromaculatus
Brown Bullhead	Ictalurus nebulosus
Brook Trout	Salvelinus fontinalis
Green Sunfish	Lepomis cycinellus
Golden Shiner	Notemigonus crysoleucas
Mottled Sculpin	Cottus bairdi

Birds

<u>Species</u>	<u>Frequency</u>	<u>Abundance</u>	<u>Likelihood of being disturbed</u>
Arctic loon	M	R	U
Western grebe	M	C (20 birds)	0
Horned grebe	M	Ca (2-4 birds)	0
Eared grebe	M	C (20 birds)	0
Pied-billed grebe	YR	C (10-30 birds)	3
White pelican	WV (12,1,2)	0 (6-12 birds)	U
Double-crested Cormorant	YR	C (7-15 birds)	2
Canada goose	WV (12,1,2)	0 (1-12 birds)	U
Snow goose	M	R	0
Mallard (wild)	WV	C (2-20 birds)	3
Mallard (domestic)	YR	A	0
Pintail	M,WV	C (10-40 birds)	3
Cadwall	M	0	U
American widgeon	M	Ca	U
Shoveler	M,WV	A (20-200birds)	3
Cinnamon teal	M	A (50-200 birds)	3
Canvasback	M,WV	A (20-600 birds)	3
Ring-necked duck	M	C (25-50 birds)	3
Lesser scaup	M	Ca	3
Buddy duck	YR	A (20-200 birds)	3
Common merganser	WV	R	U
Turkey vulture	YR	A (40-70 birds)	0
White-tailed Kite	WV	0	3
Marsh hawk	WV	0	3
Red-tailed hawk	YR	C (2-4 birds)	2
Red-shouldered hawk	YR	C (2-4 birds).	2
Prairie falcon	V	R	U
Common egret	YR	Ca	2
Snowy egret	YR	Ca	2
Great blue heron	YR	C (20-30 birds)	2
Black-crowned night heron	YR	C (10-40 birds)	3
American bittern	WV	C (6-15 birds)	3
Sora rail	YR	A	3
American Coot	YR	A (100-1000 birds)	2
American avocet	M	0 (1-6 birds)	0

<u>Species</u>	<u>Frequency</u>	<u>Abundance</u>	<u>being disturbed</u>
Northern phalarope	M (8,9)	A (100-300 birds)	1
Common snipe	M	C	3
Herring gull	YR	Ca	0
California gull	YR	Ca	0
Ring-billed gull	YR	C	0
Bonaparte's gull	YR	Ca	0
Forster's tern	M	Ca	0
Caspian tern	7,8,9	Ca (to 20 birds)	0
Black tern	M	R	0
Mourning dove	YR	C	0
Sparrow hawk	YR	C (2-4 birds)	1
Great horned owl	YR	C	0
Anna's hummingbird	YR	C	0
Rufous hummingbird	M	Ca	0
Allen's hummingbird	SV	Ca	0
Belted kingfisher	YR	Ca	2
Red-shafted flicker	YR	Ca	0
Yellow-shafted flicker	V	R	0
Black Phoebe	YR	C	0
Say's phoebe	WV	Ca	2
Barn swallow	SV	C	0
Cliff swallow	SV	A	0
Violet-green swallow	SV	C	0
Tree swallow	SV	C	0
Rough-winged swallow	SV	C	0
Long-billed marsh wren	YR	A	3
Western bluebird	YR	Ca	0
Mountain bluebird	WV	O	2
Loggerhead shrike	M, WV	Ca	1
Yellow warbler	SV	C	2
Audubon's warbler	M, WV	C	0
Yellowthroat	YR	C	3
Wilson's warbler	M	C	0
House sparrow	YR	C	0
Western Meadowlark	YR	A	2
Red-winged blackbird	YR	A	3
Tri-colored blackbird	V	O	0
Brewer's blackbird	YR	A	0
House finch	YR	A	0
American goldfinch	YR	C	2
Lesser goldfinch	YR	C	0
Savannah sparrow	YR	C	3
White-crowned sparrow	M, WV	A	0
Golden-crowned sparrow	M, WV	C	0
Fox sparrow	M	Ca	1
Swamp sparrow	V	R	1
Song sparrow	YR	A	3

<u>Species</u>	<u>Frequency</u>	<u>Abundance</u>	<u>Likelihood of being disturbed</u>
Black-necked stilt	M	R	0
American golden plover	M (8)	R (1 bird)	0
Semipalmated plover	M	Ca	0
Killdeer	YR	A	2
Long-billed curlew	M	0	1
Marbled godwit	7,8,9	Ca	0
Spotted sandpiper	M	0	1
Willet	7,8	0	0
Greater yellowlegs	M	Ca	1
Lesser yellowlegs	M	Ca	1
Dowitcher	8,9,10	Ca	0
Pectoral sandpiper	M (9)	R	0
Western sandpiper	M	C	0
Least sandpiper	M	Ca	0
Wilson's phalarope	M (8,9)	A (100-300)	1

Abbreviations and indices used

Laguna Lake frequency - Months numbered 1-12

M = Migrant (generally 3,4,5 and 8,9,10)

WV = Winter Visitant (generally 11,12,1,2,3)

SV = Summer Visitant (generally 5,6,7,8,9)

YR = Year-round Resident

V = Vagrant, occurrence unpredictable

Laguna Lake abundance - A = Abundant in large numbers

C = Commonly occurring but not in large numbers

Ca = Casual, a few every year

0 = Occasional, every few years

R = Rare, only one or two records

Index of likelihood of
being disturbed by further

development around lake* - 0 = not likelt to be disturbed

1 = a possibility of being disturbed

2 = a high probability of being disturbed

3 = undoubtedly would be disturbed

U = effects unknown

* based on personal observation, known biology, and habitat requirements of the species. A disturbed species is one which is likely to leave because of habitat destruction or excessive human activity, or to have its breeding disrupted.

APPENDIX E
ARCHAEOLOGICAL SURVEY REPORT

**CULTURAL RESOURCES SURVEY AND IMPACT ASSESSMENT
FOR THE CITY OF SAN LUIS OBISPO WASTEWATER PLANT,
SAN LUIS OBISPO COUNTY, CALIFORNIA.**

December 12, 1989

-ABSTRACT-

The City of San Luis Obispo Wastewater Treatment Facility, a 70 acre property along the west side of San Luis Creek, was surveyed for cultural resources. The purpose of the survey was to determine if prehistoric or early historic archaeological resources existed within or near the facility, and to assess potential impacts to these resources from a proposed upgrade of the facility. No archaeological resources of any kind were found on the surface and the likelihood of intact buried deposits or materials is extremely remote. Archival data indicate that nearby archaeological sites will not be affected by planned alterations to the facility. No additional archaeological work is recommended other than monitoring of trench excavation for a replacement trunk sewer line just north of the facility. Part of this trench will pass very close to site CA-SLO-124, an untested prehistoric occupation deposit.

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INTRODUCTION

Pursuant to an agreement with the City of San Luis Obispo, a cultural resources survey and impact assessment was conducted for a 70 acre property located in the City of San Luis Obispo, San Luis Obispo County, California. The subject property is bounded by the channel of San Luis Creek, on the east, and the Highway 1/101 Freeway on the west. It is currently the site of the San Luis Obispo City Wastewater Treatment Facility. The City plans to upgrade the facility, and replace approximately 2000 feet of existing sewer line, and wished to determine if the planned upgrade will have any affect on local cultural resources.

This archaeological study was undertaken because the City recognized the fact that both prehistoric and historic archaeological sites exist close to the treatment facility, and that alteration of the facility could have a direct impact on resources located there, or an indirect impact on resources located nearby. Therefore, this study was undertaken to determine if any resources might be affected by changes which are likely to occur when the property is altered. One map and one technical appendix accompany this report. Map 1, a composite made from portions of the U.S.G.S. San Luis Obispo and Pismo Beach, Calif. 7.5' Quadrangles, shows the location and dimensions of the area surveyed, as well as the sewer line which extends north and west from the treatment facility.

Surface surveys of different portions of the property were completed by Clay A. Singer on the 1st and 4th of December, 1989. These surveys revealed no prehistoric or early historic materials or features anywhere within the study area. They further revealed that the area is highly disturbed and that there is virtually no possibility of any intact cultural resources existing within the treatment facility. We have, therefore, concluded that the planned upgrade will have no direct impact on known or suspected resources. But, the planned replacement of 2000 feet of sewer line could affect a nearby archaeological site, CA-SLO-124, or other unrecorded

resources. Brief and direct, this report focuses on the prehistoric and early historic background of the San Luis Obispo region, presents the results of archival research and the findings of the surface reconnaissance survey, and concludes with a summary and recommendations regarding the planned modifications.

BACKGROUND

The San Luis Obispo region falls within the area historically occupied by the Obispeño Chumash, northernmost of the Chumashan speaking peoples of California (Heizer 1978, Kroeber 1953). Archaeological investigations conducted at Diablo Canyon by Greenwood (1972), and at Cambria by Gibson (1979) have demonstrated that the Chumash and their ancestors have occupied the central California coastal region for more than 9000 years. Today, the Chumash maintain strong ties with their past and attach high value to places and things identified with their heritage. Prehistoric and historic archaeological sites, and associated objects, fall within the category of important places and things to Native Californian Indians.

While the San Luis Obispo area has a colorful history, about which we know a good deal, its prehistory is largely a mystery. We can assume that prehistoric settlements were established here perhaps 9000 years ago, as they were in neighboring areas, but no such early sites are known at this time. A quarter century ago, in the nearby City of Morro Bay, archaeological site CA-SLO-239 was partly excavated by J. S. Clemmer (1962) who exposed and sampled a large house near the beach. This site seems to have been extensive and complex, and probably spanned several thousand years, probably from c. 3000 to 1000 years ago. Close by, at site CA-SLO-165, a new set of radiocarbon dates firmly establishes the basal occupation here at 4300 to 5300 ybp (years before present) (Singer et al. manuscript in preparation). Similar early occupations have now been established for site CA-SLO-801, at Shell Beach, and several other sites along the coastline. However, the great

prehistoric site at the mouth of San Luis Creek, CA-SLO-56 at Avila Beach, has not been protected or preserved.

Site CA-SLO-56 is believed to have been the regional Chumash capitol called *Sepjato* (Singer 1986). A considerable amount of work was carried out here in 1929, but the materials were never analyzed or published. Unfortunately, much of this site has been destroyed, first by railway construction in the early part of this century, and later by highway building and the construction of the San Luis Bay Inn. *Sepjato* was first noted by Sabastian Rodriguez Cermeño who sailed into San Luis Bay on December 12, 1595. It was most likely the largest and most prosperous town in the region, and probably the home of the famous Chief El Buchon. Since there are no recorded historic period towns or villages in the vicinity of present day San Luis Obispo, it is probably safe to assume that the entire area was allied with, or a suburb of *Sepjato*. The first Spanish colonists to enter the area did so in 1769 as the Portolá Expedition traveled north toward Monterey. Soon thereafter, on September 1, 1772, the Mission San Luis Obispo de Tolosa was founded and the facilities built by Obispeño neophytes. Between 1772 and 1806, a total of 120 people were baptized from the town of *Sepjato* and its sister community of *Pismu*. European epidemic diseases and colonial repression soon destroyed the political and economic structure of local communities, and the superstructure of Chumash culture collapsed.

During the first half of the 19th Century the cultural traditions of Spain and Mexico replaced those of the Chumash. During the second half of the century Euro-Americans entered the area and quickly substituted their own cultural traditions. Since the arrival of the first colonists, the entire region has been devoted primarily to ranching and farming. Fishing, mining, and commerce have, until recently, played relatively minor rôles in the development of the County and City of San Luis Obispo.

Generally speaking, the prehistoric Chumash and their ancestors followed an annual cycle of fishing, fowling, hunting, and harvesting of native plants and animals. Populations consisting of several related families, or larger extended kin groups, lived in permanent villages and towns along the coast, and also in the interior canyons and valleys. An extensive commerce had flourished since earliest times, centering first around the exchange of luxury items, and later extending to consumer products and foods. Over the millennia, the Chumash adapted to changes in climate, shifts in plant and animal resources, and altered social conditions, finally evolving into a large and complex, monetized, non-agricultural society around 1000 years ago (Gibson 1983, King 1982). Aboriginal society began to collapse soon after the introduction of European diseases immediately after contact and colonization in 1769. Native society disintegrated in large part due to epidemic diseases with high mortality rates, and the exacerbating effects of Spanish colonial practices.

The archaic view of California Indians as "simple folk", or more derisively as "digger Indians", has now been replaced by the recognition that most aboriginal societies, like the Chumash, had particularly sophisticated and complex social, political, and economic systems long before European colonists set foot on American soil. Furthermore, all of California's native societies, some 70 or more in number when the Spanish first arrived, were uniquely adapted to their particular environments, and lived in relative contentment with their neighbors. Many aspects of ancient Chumash society survive among the Obispoño of today. One such tradition is a very firm attachment to the sea and the land of their ancestors, while another is a persistent interest in traditional sites and archaeological materials. The Chumash, like many Americans, are displeased by the destruction of archaeological sites and natural habitats. They are particularly upset by the desecration of sacred places including burial sites and mortuary areas within habitation sites.

Historically, the San Luis Obispo area has been used primarily for grazing and pasture land, and the production of various agricultural crops. Until the 1830's, the region's outstanding natural resources allowed Mission San Luis Obispo to become one of the most prosperous agricultural enterprises in early colonial California. After the Mission lost control of the land in the 1830's, the entire region was subdivided into large private ranchos. Then, in 1866, E.W. Steele and his brothers purchased four ranchos and brought in several hundred dairy cows. By the 1870s, several cheese factories were in operation and selling the bulk of their cheese in the City of San Francisco. Military installations were established during World War II and this caused a shift away from cheese products and toward milk for drinking. More recently the shift has been towards beef cattle production and urbanization, with a subsequent loss of farm land.

As a supplement to the field survey, an archaeological records search for the subject area was requested by Mr. Glen Matteson, Associate Planner for the City of San Luis Obispo. This document, attached here as Appendix A, was prepared by Ms. Pat Lambert, Assistant Coordinator, California Archaeological Inventory, Central Coast Information Center, Department of Anthropology, University of California, Santa Barbara (UCSB). The records search indicated that the treatment plant had never been surveyed, and that no archaeological sites had ever been found or recorded within the area. However, four archaeological sites had been recorded within a one mile radius of the area including one deposit just 100m from the sewer line and 250m from the treatment facility.

The two maps which accompany Appendix A show that one historic and three prehistoric sites are nearby. Site CA-SLO-1002H, an octagonal wooden barn, is about 750m southeast of the project area, east of Higuera Street. On the opposite side of the freeway, about 700m away, is CA-SLO-783, a bedrock mortar site. Approximately 900m to the northwest, also on the opposite side of the freeway, is CA-SLO-400, an undescribed site. And finally, just

250m to the northeast is CA-SLO-124, reportedly an occupation site. No test or evaluative reports exist for any of the above sites, but the UCSB Information Center has 16 unpublished manuscripts on investigations done within a mile radius of the treatment plant.

The proposed upgrade involves changes to about five acres within the 70 acre treatment facility, plus replacement of an existing sewer line which extends for approximately 2000 feet north and west of the facility. The trench for the sewer line replacement will be 20 feet wide and about the same depth. It will cross mostly open land but will pass within 100m of site CA-SLO-124.* Although this deposit is recorded on the opposite side of San Luis Creek, the trench may pass through unrecorded deposits situated west of the creek.

FIELD RECONNAISSANCE

The entire treatment facility was examined on December 1st and 4th, 1989. On December 1st, the periphery of the area was examined and the northern third of the facility was surveyed. On December 4th, an on-foot surface examination was completed for the central third; the southern third is an effluent reservoir. Notes were made regarding the topography, pedology, flora, and general condition of the areas examined. No specific project plans were supplied to C. A. Singer & Associates, Inc., however, the planned changes will affect only a small part of the entire facility. The facility occupies an already altered portion of the floodplain of San Luis Creek.

Geographically, the subject area is situated on a modern floodplain at the confluence of San Luis and Prefumo Creeks, about five miles (8km) from the Pacific Ocean (see Map 1). As noted, the southern end of the facility is occupied by a reservoir. The central portion consists of a pair of fenced, weed covered fields, and the northern part has three principal features: a series of circular digesting ponds, tanks and reservoirs; open pit sludge spreading fields; and a network of paved roadways, garages, shops, offices and

* The route is now planned to follow Prado Road and Elks Lane, farther to the west of the creek.

maintenance buildings. The weed covered fields were the only areas which seemed to have any intact soil surfaces, but this is probably more apparent than real.

It is very doubtful whether any part of the treatment facility retains intact soils or soil surfaces. In all instances, the soils noted were dark, clayey, and charged with angular shale clasts and small durable gravels. In most places the soil also contained pieces of historic debris such as glass sherds, iron wire and nails, pieces of plastic, and cigarette filters. For the most part, native plants were absent except for the riparian habitat along the creek channel. The channel, which forms the eastern boundary of the subject area, is constrained by man-made levees along both banks. Old Cyprus trees line the east bank and screen the mobile homes and houses which lie further east.

North of the treatment facility, and north of Prado Road, the sewer line corridor passes through several commercial properties and under the pavement of the local Drive-In Theater. Casual inspection of these area revealed nothing but fill soils and pavement. Absolutely no prehistoric or early historic materials were found anywhere within the treatment facility, or along the sewer line route.

SUMMARY AND CONCLUSIONS

An thorough surface survey of the 70 acre City of San Luis Obispo Wastewater Treatment Facility yielded no evidence of either prehistoric or historic archaeological remains. The survey also found that the treatment facility has a limited potential for yielding subsurface remains because of its location, and previous modifications. A somewhat greater potential exists north of the facility within the sewer line corridor. Archival data indicate that archaeological site CA-SLO-124 is located just north of the facility and close to the sewer line corridor. The site has not been systematically tested and it's nature and extent are currently unknown. Overall, the probability of encountering any archaeological

materials or features within the facility is near zero; the probability within the sewer line corridor is only slightly higher.

Several factors argue against the existence of any intact cultural resources within the treatment facility. One is the current topography which suggests that a large part of the original surface was removed and used to build the levee along the west side of the creek. Additional soil was probably removed and used for the construction of the roadbed for the nearby freeway. Also, construction of the reservoirs, ponds, tanks and other facilities has displaced large volumes of soil. Another negative factor is the location of the facility on a floodplain next to a perennial stream. The pipeline corridor which extends northward from the facility presents a somewhat different situation. North of Prado Road there are no levees constraining the creek and there appears to be far less surface alteration. However, hydrographic conditions in both areas are similar and, therefore, the probability of finding intact deposits is about the same.

Since no archaeological materials or features were found within the treatment facility, and no buried materials or deposits are believed to exist within this area, the planned upgrade is not expected to have any direct affect on known or suspected cultural resources. Consequently, no additional archaeological work is recommended prior to initiation of construction for the upgrade. On the other hand, when the trench is excavated for the scheduled replacement of the trunk sewer line, north of the treatment plant, the excavation should be monitored by a qualified archaeologist. The sewer line trench, which parallels the west side of San Luis Creek, passes within 100m of site CA-SLO-124, and even though no materials or deposits are recorded on the west side of the creek, the possibility of such remains does exist. If buried deposits or materials do exist within the corridor of the sewer line, then they could be adversely affected by the upcoming trench excavation. As unlikely as this seems, this situation has recently occurred in the downtown area of San Luis Obispo. A large deposit of historic trash was

recently encountered along the bank of San Luis Creek, now channelized and buried under Higuera Street. Dating from the first quarter of the 20th Century, the deposit contains a variety of animal bones, glass bottles, assorted ceramics, objects of metal and shellfish remains. The deposit has been recorded as site CA-SLO-1262H and a report is now under preparation (Singer, Kirkish and Atwood n.d.).

In the event that archaeological materials or deposits are encountered during excavation within the boundaries of the treatment facility, work in the vicinity of the find site should be temporarily suspended and an archaeologist should be contacted. As soon as the find is examined and evaluated by an archaeologist, and appropriate mitigative actions have been agreed upon, the work can resume. As in the case of the sewer line monitoring, should this situation occur, a comprehensive written report must be prepared which fully documents the situation and the outcome.

REFERENCES CITED

Clemmer, John S.

1962 *Archaeological Notes on a Chumash House Floor at Morro Bay.* Central California Archaeological Federation, Sacramento.

Gibson, Robert O.

1979 "Preliminary Inventory and Assessment of Indian Cultural Resources at Lodge Hill, Cambria, San Luis Obispo County, CA". Report prepared for the San Luis Obispo County Engineering Department.

1983 "Ethnogeography of the Salinan People: A Systems Approach". Unpublished masters thesis, Department of Anthropology, California State University, Hayward.

Greenwood, Roberta S.

1972 "9000 Years of Prehistory at Diablo Canyon, San Luis Obispo County Archaeological Society Occasional Paper 7, San Luis Obispo.

Heizer, Robert F. (Volume Editor).
1978 *Handbook of North American Indians - California* 8.
Smithsonian Institution, Washington D.C.

King, Chester D.
1982 *The Evolution of the Chumash Society*. University
Microfilms, Ann Arbor.

Kroeber, A.L.
1953 *Handbook of the Indians of California*. California
Book Company, Ltd., Berkeley.

Singer, Clay A.
1986 "Subsurface Archaeological Testing At The San
Luis Bay Inn, Site CA-SLO-56, At Avila Beach,
San Luis Obispo County, California." Report
prepared for Richmond-Rossi-Montgomery, San
Luis Obispo.

Singer, Clay A., John E. Atwood, et al.
n.d. "Archaeological Excavation at CA-SLO-165 in the
City of Morro Bay, San Luis Obispo County,
California". Report prepared for the Department of
Public Works, City of Morro Bay.

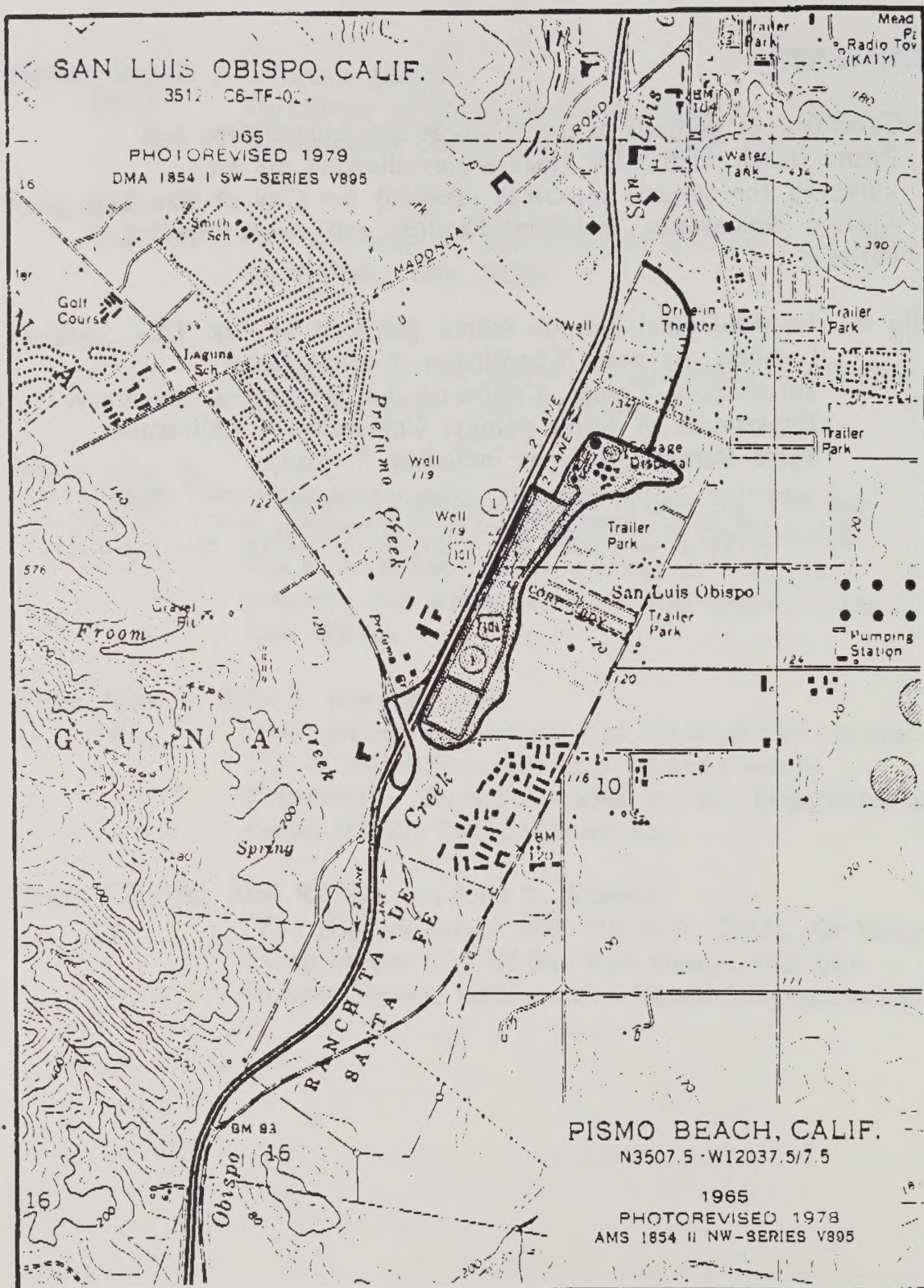
Singer, Clay A., Alex Kirkish and John E. Atwood
n.d. "The Higuera Street Site, CA-SLO-1262H, An Historic
Dump In The City Of San Luis Obispo, San Luis
Obispo County, California". Report in preparation.

ATTACHMENTS

Map 1. Composite of portions of the U.S.G.S. San Luis Obispo and Pismo Beach, Calif. 7.5' Quadrangles showing the area surveyed for cultural resources (shaded) the City of San Luis Obispo Wastewater Treatment Facility, and sewer pipeline corridor.

Appendix A. Archaeological records search prepared by Ms. Pat Lambert, Assistant Coordinator, Central Coast Information Center, California Archaeological Inventory, Department of Anthropology, University of California, Santa Barbara (8 pages including 2 maps).

(On file in the Community Development Department at City Hall, 990 Palm Street, San Luis Obispo, CA. Specific locations of sites are kept confidential to protect the resources.)



Map 1. Composite of portions of the U.S.G.S. San Luis Obispo and Pismo, Calif. 7.5' Quadrangles showing the area surveyed for cultural resources (shaded), the City of San Luis Obispo Wastewater Treatment Facility, and sewer pipeline corridor.

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